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ABSTRACT

Results of an external review of West Virginia University (WVU) and recommendations for strengthening WVU are presented. The review was designed by the Academy for Educational Development and involved 14 review panels and 42 senior university educators and administrators. A summary section on the observations, findings, and recommendations of the 14 panels is presented, along with the complete reports of the 14 panels and executive summaries of the reports. The panels cover the following areas: agriculture and forestry, business and economics, computers, enrollment management, extension and continuing education, finance, governance, graduate studies and research, human resources and education, journalism, land-grant university mission, relations with high schools, science-based technology, and undergraduate studies. A list of members of the 14 panels and the general committee is presented, along with information on economic factors in West Virginia. Suggestions for strengthening WVU are offered in a letter by the general committee to WVU president E. Gordon Gee. Appended is an analysis of state funding of West Virginia University by Frederick S. Lane and James S. Lawrence. (SW)

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REVITALIZATION AND RENEWAL

THE REPORT OF THE BENEDUM STUDY PROJECT AT WEST VIRGINIA UNIVERSITY

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October, 1984

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October, 1984

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June 18, 1984

President E. Gordon Gee
West Virginia University
Morgantown, West Virginia 26506

Dear President Gee:

The attached report entitled *Revitalization and Renewal* is being submitted to you in accordance with the terms of the Claude Worthington Benedum Foundation's grant calling for a comprehensive review and evaluation of the University, leading to recommendations for strengthening the institution.

The report is organized in three sections plus an Introduction by Paul Jenkins, Executive Vice President of the Benedum Foundation, and Appendices:

A. A letter to you prepared by the General Committee containing suggestions and recommendations for strengthening the University.
B. A summary of the observations and findings, together with recommendations of the 14 Panels. This summary involves nine sections and an introduction.
C. The complete reports of the 14 Panels, together with executive summaries of the reports, and a list of all members of the General Committee and the 14 Panels.

The Appendices contain background and documentary materials.

Speaking for the members of the General Committee and the 42 members of the 14 Panels, as well as for myself, I want you to know how much we have enjoyed working on this very important project. We are greatly indebted to you, to the members of your administrative staff, to members of the Board of Advisors, the faculty, the students and the alumni whom we have met, for all the pertinent information and the thoughtful suggestions we have received.

The funds so generously supplied by the Benedum Foundation have enabled us to assemble a team of highly qualified and nationally recognized educational authorities to conduct this study. To our knowledge, no other American university has ever had the benefit of as comprehensive a review and evaluation by such a large assemblage of distinguished educational experts.

We hope that the observations, suggestions and recommendations contained herein will prove valuable to you and your associates as you strive to improve the quality of education, research and public services which the University is rendering to West Virginia and the nation.

Sincerely,

Alvin C. Eurich

Alvin C. Eurich
President, Academy for
Educational Development and
Chairman, General Committee
Benedum Study Project

Introduction

In introducing the following report, it might be helpful to explain that the Claude Worthington Benedum Foundation is a charitable resource which for nearly forty years has focused its attention on a region encompassing West Virginia and the needs of its people and their institutions. The Foundation perceives its role primarily as one of encouraging and enhancing the opportunities of the region's people to deal more imaginatively and creatively with the particular problems of their society. To that end, the Foundation works in discussion and cooperation with others to take a long and thoughtful view of problems and solutions and to provide carefully directed funding initiatives which involve other sectors, both public and private, in bringing about positive change and development.

Dr. E. Gordon Gee assumed the presidency of West Virginia University in November 1981, and immediately undertook the critical task of upgrading the quality and influence of the institution. His first step was to appoint interim vice presidents and around them to organize task forces on University administration and on academic planning charged with evaluating, not only the University's existing administrative structure, but also, its academic and support activities, and to begin redefining the future role the institution should assume in providing quality educational services to fit its constituency. His underlying assumption was that significant change and reorientation must take place, that West Virginia University must improve its capacities to deliver increasingly superior services with a relatively stabilized level of resources, and that a carefully constructed combination of programmatic reductions, modifications, and expansions would have to be developed.

The comprehensive external review of the University, which the following report describes, was designed by the Academy for the Educational Development as an integral part of the long-range planning process thus initiated by President Gee. Benedum Foundation support of the project reflects its own concerns, generated through close association and dialogue over several decades with all of public and private higher education in West Virginia, about the future of what is both the state's only land-grant institution and comprehensive university. In a state where nearly 94 percent of those who gain access to a higher educational experience do so through one or another of West Virginia's colleges and universities, the ultimate importance of WVU as the center of graduate and professional education and research and extension programs is clear.

Provision by the Foundation of the major funding initiatives involved reflects as well its positive judgments concerning the vision and courage of Dr. Gee and his administration and faculty in undertaking what can only be described as an arduous and challenging job. Their determination to develop and implement a strategic plan for the future of the state's land-grant university is perhaps unique among leaders of institutions of this type, particularly where the planning process is geared to defining more clearly the role of West Virginia University as it relates to and is consistent with the roles and responsibilities of the other colleges and universities comprising the state's higher educational system.

The external review which supported that process is, we believe, similarly unique both in design and execution. The Academy for Educational Development and its President, Dr. Alvin C. Eurich, himself an educator of unparalleled reputation and experience, assembled at West Virginia University a General Committee and 14 Review Panels, together comprised of 42 senior university administrators and educators experienced in land-grant university development and statewide governance, as well as experts in fields of learning which, according to the University's own self-studies, hold a particular promise for it. Perhaps no other organization or individual could have brought together a team of persons of such renown in their fields, nor encouraged through the project's design the high level of collegiality, of mutual concern and interest, that

has existed throughout the study between the General Committee, the Review Panels and the groups of faculty and administrators from across the life of the University who interacted with the independent consultants during the study's course.

It is important to note that each of the 14 Review Panels were provided the fullest opportunity to analyze in-depth that aspect or unit of the University with which it was charged through position papers and study documents prepared at the outset, as well as site visits and the chance to interview at length deans, faculty, and students, to the extent required. The reports of the individual Panels themselves truly represent a wealth of wisdom and insight in terms both of the present functioning of the University and an array of goals and strategies that could be adopted to strengthen WVU's potential for achieving its mandate as the apex of West Virginia's higher educational system.

In the following report, the General Committee has integrated the findings and recommendations of the Review Panels in light of its own comprehensive evaluation and has set forth overall recommendations for the University's long-range development. Of special significance to the Benedum Foundation is the fact that the members of the General Committee, Dr. Eurich, Dr. Clark Kerr, Dr. Frederick S. Lane, and Dr. John Wilson, have been throughout their analysis highly sensitive not only to the ways in which West Virginians differ culturally, socially, and politically from people in other parts of the country, but also, to those critical economic, social, and educational needs of the state and region which a truly strong West Virginia University could help to address more effectively. Their sensitivity and concern has led to a report which is not simply a litany of generalizations about education. Rather, it comprises analyses and recommendations highly germane to the University's planning process and uniquely supportive of it in establishing realistic goals and strategies.

A very special word of thanks is due to Dr. Norman P. Auburn, President Emeritus of the University of Akron and Senior Vice President of the Academy for Educational Development. During the second year of the study, Dr. Auburn devoted his very special talents and experience as an educational administrator to supporting President Gee in coordinating the many complex and

potentially difficult aspects of the project. Happily, he has agreed to remain for a second year as Special Consultant to the President in coordinating the equally difficult first-stage implementation of the study's recommendations.

The comprehensive external review of West Virginia University and the institutional long-range planning process of which it is a part represent, we believe, an altogether exciting and challenging blueprint for action that will distinguish WVU as a regional and national resource for social and economic development. It would be difficult to imagine a more thorough and comprehensive review and analysis than that to which the University has been subjected by 42 of the most distinguished and experienced educators in the nation. Their work product and the commitment of President Gee and his administration and faculty to the process should not fail to capture as well the attention and commitment of all West Virginians in support of a coordinated effort to enhance the capacity of one of their key institutions to better serve the needs of the state.

CLAUDE WORTHINGTON BENEDUM FOUNDATION

Paul R. Jenkins
Executive Vice President

Part A.

General Committee's Letter to President E. Gordon Gee

Dr. E. Gordon Gee, President
West Virginia University
Morgantown, West Virginia 26506

Dear Gordon:

Two years have passed since we were asked to serve on the Benedum General Committee. During that time we have come to see ourselves as genuinely privileged, for we have come to know and admire many people in the State of West Virginia and especially those on the faculty and staff of West Virginia University. We have found it ennobling and exhilarating to witness the determination of a state and its people to improve the quality of life enjoyed by all. And this is nowhere more patently evident than in the striving after excellence which marks your administration and motivates your colleagues on the faculty and staff.

We do not have to point out to you that the University and the society it serves have recently experienced difficult times. The consequences of recession and depression have affected every corner of the state, and they will not soon be corrected. This is especially true of your University which struggles with underfunding in virtually every facet of its complicated operations. Our greatest fear for the state and its land-grant university is that continuing

underfunding will slowly cause the dissolution of precious intellectual resources. We especially fear that your finest faculty colleagues, now serving in loyalty and on faith in the future, will lose heart and leave West Virginia. The spectre of that possibility, with the exodus of creative people in fields such as medicine, law, engineering, business, agriculture, and the arts and sciences, is haunting the University.

It is imperative, we believe, that every reasonable step be taken to ensure that this does not happen. America, today, including West Virginia, is engaged in an entirely new level of intellectual competition. To be sure, the currency of advancement in the Western world has always been fresh, inventive ideas. But this reliance upon trained intelligence is now worldwide and the quality of our schooling, of our advanced work in colleges and universities and research laboratories, is measured, not in parochial terms, but against the very best, whether it be found in Tokyo, Rome, Haifa, or London. It is no longer possible to think of your work in Morgantown as unconnected to the broad pathways of intellectual development that now encircle the globe.

Although it should not attempt blindly to imitate or pattern itself after other universities of the first rank in this country or abroad, West Virginia University must, in learning from these institutions, do everything it can to serve West Virginia and meet the special needs of its own people. The generation now coming along in Charleston and Beckley and Princeton and Huntington and in the farthest rural reaches of the state must be prepared to stay abreast of new developments in all of the fields our society depends upon for its economic well-being and its quality of life. Tomorrow's doctors and pharmacists and teachers and accountants and computer specialists and engineering scientists will help the state to grow and to develop in productive ways only if they possess the most current theory and practice of their respective fields.

We know, of course, that you realize this and, further, that you recognize the special obligations of West Virginia University in this new world. In fact, the most heartening feature of our review of the University is the discovery that you and your colleagues are prepared to plan carefully and to make difficult choices to assure that the University will be able to make its maximum contributions.

We wish there were other options, for it would be far easier, in many ways, if you were to decide to allow all the University's programs to share equally in the inadequate resources available to the University. For all programs equally to drift downward to mediocrity and worse would, however, be tragic. The course you have chosen is much harder, but it will serve West Virginia much better.

Many specific recommendations are made in the panel reports submitted to you which result from the process of review to which we have given general supervision. We commend the recommendations to you for careful study. It remains for us to add our own overall observations:

1. **That West Virginia University is making the greatest effort of any research university in the United States to make the most effective use of its resources and under conditions of the most severe financial constraints. We commend all those involved for this effort.**
2. **That the University is grossly underfunded.**

Faculty salaries are unduly low; class size and teaching loads are oppressively large; deferred maintenance keeps rising; and your library resources and scientific equipment are inadequate. We recommend, in particular, that state funds be provided to raise faculty salaries immediately to the Kentucky level and, as soon as possible thereafter, to the average level in the SREB states.[1] We note that the legislature has taken modest steps in this direction in 1984.

The absence of a rational formula by which state funds are allocated from the Board of Regents to the University results from an apparently inadequate appreciation of the necessary costs related to West Virginia University's role as the land-grant, doctoral degree granting, research university in the state. The resultant underfunding by the state is clearly visible when a comparison is made with peer institutions. If West Virginia were located in Tennessee or Kentucky, each of which has more limited tax capacity than that of West Virginia, it would be funded at a level, respec-

[1] See Part B, Section VI, Faculty and Staff Salaries and Welfare.

tively, of $6.4 million or of $15.7 million higher than is currently the case, given the funding formulae of those states.

Exacerbating this problem of underfunding is the Board of Regents budget process. The Regents are authorized by statute "to submit either separate budgets for each state college and university, or a single budget." In practice, the Regents submit a single budget, with the result that West Virginia University's budget needs are obscured. A distinct budget request is important.

It is essential that the Board of Regents, the legislature, and the state recognize the sole responsibility of West Virginia University for the land-grant mission and for research and doctoral education in West Virginia. The adoption by the Regents of a rational formula for the allocation of state dollars to higher educational institutions would serve as such a recognition, with appropriate consideration being given, as it is in other states, to the research and service functions performed by the land-grant university. Such a formula would take into account the high costs of professional, graduate, and graduate-professional instruction.

The allocation by the state of at least the present level of financial resources in real terms to higher education is required, even as enrollments decline in the near future, with upward adjustments in terms of real growth in the Gross State Product. State decision-makers cannot allow a dwindling of the proportion of state dollars allocated to higher education to continue.

The University should also engage in aggressive private fund raising, designed to provide the "quality dollars" required to enhance the excellence of the academic program. The West Virginia University Foundation should accelerate its efforts to obtain additional funds from alumni, friends, foundations, and corporations. We have noted the progress the Foundation has made in recent months.

Many state universities rely heavily on student tuition and fees for some of their operating dollars. Most of your tuition charges are dedicated to retiring bonded indebtedness on the physical plant. We urge you to consider instituting, as soon as feasible, a new student fee to be used for current operations. We are aware that you have increased both in-state and out-of-state student charges in recent years, but your student charges are still somewhat low

compared with peer institutions. Assuming that scholarship, loan, and work study funds will be provided for those in greatest need, we urge an additional student charge to provide sorely needed operational funds.

The University's fiscal needs extend beyond new dollars, as important as those dollars are. It is also critical for the institution to have flexibility, and appropriate accountability, with regard to the use of its financial resources. Increased operational autonomy would allow the University to make even greater use of the funding that is available to it.

3. That the University is significantly overextended in some areas and underdeveloped in others.

We believe that the University must focus its efforts in ways consistent with its unique role in the West Virginia system of higher education. We recommend that, in doing so, it gives first priority to improving the quality of its land-grant functions and to enriching research and doctoral level instruction in a few carefully chosen fields.

It is important for you and your colleagues to continue to help the State of West Virginia recognize that its land-grant University is a proven vehicle through which the state invests in itself and its future, thereby reaping direct economic and social benefits which strengthen both the quality of life and the economy of the state.

West Virginia University needs to forge a partnership with the State of West Virginia, taking the leadership role, along with business, labor and government, in determining the social and economic thrusts which need to be developed to improve the well-being of the people of the state. This activity should reveal specific undergraduate and graduate programs and research efforts which must be nurtured and strengthened, as well as those which should be reduced, modified, or terminated.

In undertaking such efforts, West Virginia University must recognize that West Virginia women are burdened with socio-economic disadvantages greater than those of men in the state. In 1983 women in West Virginia earned an average of 52 cents for every dollar earned by a man. This income gap is made even more

serious by the fact that 40 percent of West Virginia women depend solely on their own earning power for their livelihood. In order for West Virginia women to achieve their fullest potentials, strong measures will be necessary.

The University should make efforts on a variety of fronts to upgrade its extension efforts. The state's flagship, land-grant University has a responsibility to serve not only the resident students on the campuses in Morgantown, but also those citizens in the 55 counties who need and want instruction and services that West Virginia University is uniquely qualified to provide.

In addition, the University should consider ways in which the institution's Extension Service relates to the various schools and colleges. When extension is allowed to be cut off from the academic programs, which are the source of disciplinary knowledge, the entire extension concept is undermined.

As it determines areas of future academic program direction, the University should focus efforts in those areas critical to the institution's land-grant mission. You should consider not only the traditional disciplines of agriculture, home economics, and forestry, but also fields which are emerging as increasingly important to the social and economic well-being of West Virginia, including education, business, engineering, government, health, and mining.

Achieving excellence in carefully selected areas of research and graduate education will call for some difficult decisions by the University and for a new funding approach by the state.

The harsh reality of the underfunding of the institution must be considered as the University reviews its role in graduate studies and research. While we know that the lack of resources plagues the entire institution, the problem is especially severe in this area of high personnel, facilities, and equipment costs. As we have already pointed out, it is essential for the state and the Board of Regents to recognize the higher costs associated with graduate education and research and for appropriate funding formulae based on this reality to be developed.

The University must also take action to reallocate its resources in line with identified areas of emphasis in research and graduate studies. Your University, like every strong institution, must focus its efforts in directions consistent with its mission and its resources,

striving for "peaks of excellence" — schools or programs seen as truly outstanding.

We believe that a substantial number of doctoral programs should be eliminated, allowing the University to move resources into both new and existing areas selected as centers of excellence. At present there are many doctoral programs at West Virginia University that graduate only one or two students, a situation that deprives the students of the crucial interaction with peers in their field. Such interaction is almost as important to a scholar's development as his/her contact with professors. The total number of graduate students should remain constant, but students should be clustered in strong programs, rather than widely scattered as is now the case. We believe that the number of Ph.D. programs should be cut, at least by one-half.

It is imperative that graduate student stipends be raised to a level which makes the University more competitive for very good graduate students. The current low level of graduate assistant stipends makes it impossible for the University to compete with the major research and graduate level institutions in the country. The role of the graduate assistant is central, but the lot of this constituency appears to have been ignored over a period of many years.

4. That the quality of undergraduate education needs careful attention.

The strength of its undergraduate curriculum has been a principal hallmark of West Virginia University. A sound undergraduate foundation should continue to be an essential element, even as the University gives new attention to the quality of its public service and of its research and graduate studies.

We are pleased to note that the Core Curriculum Committee of the West Virginia University Senate is currently engaged in a reconsideration of the University's general studies program. Such a reevaluation is clearly warranted, and will, we hope, result in a well-conceived Core Curriculum which will provide a firm foundation on which the undergraduate student's baccalaureate degree program will be built. Whatever the details of the plan which the Core Curriculum Committee devises, we believe that it should be

thematically clear and strong and that it should be given a central identity within the University's undergraduate curricula. We cannot stress too much the necessity of developing a rationale for the core curriculum and for each course included; without a strong rationale — whatever it may be — the program has no goal and therefore amounts to a random, fragmented selection of courses that may or may not add to a student's understanding of diverse modes of inquiry and to the integration of knowledge.

The University's Honors Program has the potential to serve as a focus for excellence at the undergraduate level. We urge that this program be enhanced, giving it the support required to keep good faculty members interested and involved.

Along a similar line, we believe that the University's recruitment efforts for students must be increased significantly. Such efforts are important not only as they result in an increased quality in the West Virginia University student body, but also as they carry throughout the state the commitment of its land-grant university to all West Virginians, including the many top high school students who leave the state to pursue their undergraduate education.

We also urge that the University consider raising its general admissions standards and requiring additional high school courses for admission. At the same time, we believe it is important for West Virginia University to allow a certain number of places in each class for academically disadvantaged students and to provide the support services required to enable such students to succeed.

In addition, systematic efforts should be undertaken immediately to enhance the University's relations with the public schools in the state. Such activity would result in the improvement of West Virginia public education generally and would also have a clear payoff in regard to recruitment of students. The many studies which have recently been published regarding public schooling in the United States have revealed major problems and have called for school-university collaboration. West Virginia University is in a unique position within the state to contribute to the needs of schools, to the mutual benefit of both the schools and the University.

5. That the governance of the University needs to be and easily can be improved.

The Benedum General Committee has considered both internal and external governance mechanisms. We find that the internal governance of West Virginia University is similar to that in most state universities and appears to be functioning well.

We applaud the steps which you have been taking to strengthen the role of the faculty and of the Faculty Senate, and the open administration and communication policies which have been established during your presidency.

Our Committee has deliberated at great length with regard to West Virginia University's immediate external governing body — the West Virginia Board of Regents. We have considered this issue because many of the policies that guide the University have been developed by the Board of Regents rather than by the institution.

Article 26 of the West Virginia Code, which outlines the powers and duties of the West Virginia Board of Regents, gives the Regents general authority to determine, control, supervise, and manage the financial, business, and educational policies and affairs of all state colleges and the University. The specific powers and duties outlined in the Code are in keeping with those customarily held by state governing boards.

We note the authority granted in the West Virginia Code to the West Virginia University Board of Advisors. This body has the legal authority to review and comment on institutional mission, academic programs, budget, capital facilities, personnel policies, and other matters, as requested by the President of the University.

Our Committee believes that the governance of West Virginia University would be enhanced by a delineation of the powers of the Board of Regents and the University's Board of Advisors in the same manner in which federal and state powers are determined. That is, those powers which are not specifically designated to the Board of Regents should be considered as delegated to the institution. The role and authority of the Board of Advisors could then be expanded within existing legal limitations. The Board of Advisors should have the authority to decide all matters normally decided by a campus level board and not specifically reserved for the Board of Regents, and, for those matters reserved for the Board of Regents, it should have the right to make recommendations.

In such a way, the West Virginia system of higher education can continue to operate as intended by existing legislation, but the ability of West Virginia University to manage more of its own operational activities would be expanded. The wide range of institutions falling under the governance authority of the West Virginia Board of Regents, together with the unique role of West Virginia University within the state system, suggests that uniform operating guidelines may be an inappropriate device for achieving the legislative purpose for the Board of Regents.

When resources available to a state and to its institutions of higher education are as limited as those which have been and are likely to be available in the state, operational flexibility with regard to all institutional resources — fiscal, human, and other — is essential. Within the framework of the general Board of Regents authority outlined in Section 26 of the West Virginia Code, the University should be permitted to exercise those supervisory powers that will allow it to make the most of its resources.

In your continuing effort to redeploy resources, we ask you to remember that the University must concentrate its efforts on academically sound programs which serve the specific needs of its students and of the state. A university must strive for "peaks of excellence," i.e., schools or programs seen to be truly outstanding. Even Harvard, Yale, Stanford, or Michigan can have only a limited number of superior departments. In the final analysis, it is the number of these peaks of excellence that determines an institution's status.

* * * *

We recognize that the goals we have identified can be reached only by the complete dedication and cooperation of all the constituencies of West Virginia University. Your responsibility as President is to convince the entire University family of the need to engage in a crusade of revitalization and renewal of the institution they love and cherish.

Carrying out the land-grant mission more effectively, strengthening undergraduate education, and developing research

and graduate studies during a period of scarce resources is indeed a very large order.

But the state and the people of West Virginia have a great asset in West Virginia University. We believe your University represents the state's most prized investment and its best hope for the social and economic well-being of the citizens of West Virginia. We firmly believe that West Virginia will recognize the necessity of preserving and strengthening its great investment in its flagship University.

We trust that the suggestions we have made on governance and funding will be helpful to you as you strive to enhance the quality of the University's educational service generally and as you work to establish peaks of excellence in areas of special value to the state.

We applaud you for your valiant and productive efforts during your relatively brief tenure as President and wish you all possible success in the days ahead.

Cordially,

Alvin C. Eurich
Chairman

Clark Kerr

Frederick S. Lane

John D. Wilson

Part B.

A Summary of the Observations, Findings and Recommendations of the Project Panels

Introduction

A. The Committee's Mission

The specific assignment of the General Committee of Consultants, under the terms of the Claude Worthington Benedum Foundation's grant of March 8, 1982 to the West Virginia University Foundation, was to conduct "a comprehensive review and evaluation of the University, leading to recommendations for strengthening the institution."

The Benedum Foundation's grant was made at the request of President E. Gordon Gee shortly after he assumed the presidency in November 1981. In determining to upgrade the quality and influence of the institution, Dr. Gee pointed out that significant changes and reorientation would have to take place, that the Uni-

versity would need to deliver increasingly effective services with a relatively stabilized level of resources, and that a carefully constructed combination of programmatic reductions, modifications, and expansions would need to be developed.

The General Committee's specific charge, in the President's proposal to the Benedum Foundation, was "to examine the University's current situation, to establish goals in line with administrative and academic requirements, to make recommendations for strengthening activities that support the University's mission, and to identify those academic and administrative arrangements that will most effectively carry out the programs of the University."

B. Method of Operation

The General Committee's mission was only one component of the total planning process instituted by President Gee. In his proposal for a development plan to provide for the revitalization and renewal of the University, Dr. Gee called for renewing the University's historic mission to "reconstruct the past, to understand the present, and to glimpse and help create the future."

To accomplish these objectives, the President created these components:

- A Task Force on University Administration to review and make recommendations for restructuring the University's administrative operation.
- A Task Force on Academic Planning, known as the Academic Planning Committee, consisting of 13 faculty members, to evaluate the University's undergraduate and graduate curriculum and to make recommendations concerning the need to strengthen, merge, or eliminate departments and programs.
- The General Committee of four distinguished educational consultants which he asked the Academy for Educational Development to establish.
- Panels of outstanding educators and administrators to serve as reviewing committees to examine individual Schools and Colleges of the University as well as certain cross-cutting issues, these Panels to be organized by the Academy and to report to the General Committee.

- Provision for senior staff members of the University to visit selected institutions and to attend conferences and workshops dealing with strategic planning.

The Benedum Grant provided that the Academy for Educational Development, in addition to establishing the General Committee and the Panels of consultants, should assist the University in coordinating the planning process.

C. Personnel

The General Committee consists of Dr. Alvin C. Eurich, President, Academy for Educational Development, Chairman; Dr. Clark Kerr, President Emeritus, University of California; Dr. Fred Lane, Professor of Public Administration, Baruch College, City University of New York; and Dr. John Wilson, President, Washington and Lee University. Dr. Norman P. Auburn, Senior Vice President, Academy for Educational Development and President Emeritus of The University of Akron, serves as Campus Coordinator.

The Panels of visiting consultants, consisting of one, two, three or four individuals, are:

Agriculture and Forestry
Business and Economics
Computers
Enrollment Management
Extension and Continuing Education
Finance
Governance
Graduate Studies and Research
Human Resources and Education
Journalism
Land-Grant University Mission
Relations with the High Schools
Science-Based Technology
Undergraduate Studies

The names of the 14 Panel members are listed at the beginning of Part C.

D. Procedure

It is the belief of the General Committee that no institution of higher learning has ever had such a comprehensive review and evaluation by as large a number of distinguished educational authorities in the time span of just over one year.

The usual practice was for the Panels to meet twice in two-day sessions; once in New York or Washington with President Gee,

his administrative associates, and faculty representatives, and once in Morgantown with faculty, students, and administrative officers as well as, on occasion, representatives of the Legislature, the Board of Regents, and the University's Advisory Board and alumni groups.

Before their Morgantown site visit, Panel members studied reports, position papers, statistical data, and where pertinent, recommendations of the Academic Planning Committee and reports of regional and professional accrediting agencies.

The General Committee has had eight two-day meetings. Those held in Washington and New York were with President Gee and his administrative associates. Those in Morgantown were with faculty, administrative officers, students, alumni, and representatives of the Legislature and the Board of Regents.

Panel reports were prepared for, and submitted to, the General Committee. The General Committee scrutinized and reviewed each of the Panel reports and incorporates all of these separate reports into this document. The recommendations in this report, however, are those of the General Committee and do not necessarily embrace all of the recommendations of the Panels.

During its review and evaluation of the Panel reports, the General Committee had the benefit of observations, comments, and suggestions of President Gee and members of the Benedum Study Steering Committee of the University.

E. The Committee's Posture and Attitude

The General Committee approached its review and evaluation of the University in a constructive, not a critical, manner. It fully appreciates what the University has accomplished — and is accomplishing — in serving the needs of the people of West Virginia. It recognizes that the University is carrying out its mission with very limited resources and that, compared with other state universities, it is under-funded from state tax sources, from student fees, and from federal and private sources.

The Committee believes that in West Virginia University the State of West Virginia possesses a resource and asset of almost inestimable value which it may not fully understand and appreciate. It cites the following assets of the University, some of which are overlooked from time to time:

Assets of the University — (Illustrative only)

- West Virginia University, founded in 1867 as a land-grant college, is now a comprehensive senior university comprising 170 degree programs offered in 16 undergraduate and graduate and professional schools and colleges.
- It is the only doctoral degree-granting institution in the state with graduate work offered in 70 subject-matter fields.
- It counts among its graduates some 19 Rhodes Scholars, an unusually large number.
- It enrolled 27 National Merit Scholars in 1981-82, ranking it 46th among 435 colleges and universities.
- It is listed in the "Research-II" category in the Carnegie Council's report, *A Classification of Institutions of Higher Education* (1976) in which it was defined as "one of the 100 leading institutions in terms of total number of Ph.Ds awarded during the years 1965-75."
- Its research and graduate programs are strengthened by grants from the Claude Worthington Benedum Foundation which help to support six Distinguished Professorships.
- It is one of the state's largest employers, thereby being a very important economic resource in furnishing employment opportunities. It currently employs 7,554 persons, full- and part-time, in teaching, research, services and staff positions.
- It provides continuing educational opportunities for adult students and extension programs through county agents in all 55 counties of the state.
- It carries on significant research studies for the state through such agencies as the West Virginia Economic Development Steering Committee, the Bureau of Business Research of the College of Business and Economics, the Energy Research Center, the Regional Research Institute, the Staggers National Transportation Center, and the Coal Research Bureau.
- It provides background data and reports for the West Virginia Tax Study Commission as well as other studies on the tax structures of the state.
- It works with the state in helping to improve the state's economy and quality of life by

a) improving the quality and capability of its science, engineering, business and economics divisions;

b) placing increasing emphasis on direct assistance to business and industry of all types as, for example, through its Center for Entrepreneurial Studies and Development; and

c) working with the Legislature, through the Joint Commission on Unemployment and Economic Development, to further development of coal, oil, gas, timber, and tourism.

- Its faculty has gained national recognition as indicated by these examples:

a) *Scholarly Productivity.* Creative scholarship is important beyond that of enriching the faculty member's competence as a teacher, since it adds to the store of knowledge and art. The University's distinction in scholarly productivity is indicated by a success rate of 64.9 percent of the 507 proposals for grants and contracts submitted by faculty members; by the total of 54 books/mimeographs authored by faculty members (one for each 13.3); by the 495 international/national journal articles (one for each 1.45); and by the 946 scholarly papers presented by 450 faculty members at international/national academic meetings.[1]

b) *National Offices and Distinctions.* A Professor of Social Studies is President of the American School and Community Safety Association. A Professor of Medicine is President of the American College of Nutrition and winner of the national award in nutrition. A Professor of the History and Science of Technology is a Regents Fellow at the Smithsonian Institution. A Professor of Journalism was selected by the National Society of Professional Journalists as the Distinguished Teacher of the Year. A Professor in the School of Creative Arts is the Chairman-elect of the Commission in the Arts of the National Association of Land Grant Colleges and State Universities.

With assets such as these, West Virginia University, building upon its heritage, is now ready and committed on a course of revitalization and renewal. President Gee has emphasized that there

[1]*Source.* Data for 1982-83 included in North Central Association Self-Study of WVU, 1984.

is "no substitute for trained intelligence and for the prepared mind." West Virginia needs to produce students with these attributes in sufficient number and sufficient quality to meet the needs of the state and the nation.

The observations and recommendations of the 14 Panels in the nine sections that follow suggest measures which the University should consider as it strives to strengthen its activities in carrying out its three-fold mission: teaching, research and service.

SECTION I
West Virginia University: Its Land-Grant Mission

"Teacher, student, healer, artist, scientist, grower of food and forest, builder of a better world . . . These are the many faces of West Virginia University. It seeks to reconstruct the past, to understand the present, to glimpse and help create the future."

In describing itself in these terms, West Virginia University epitomizes its role and mission as a land-grant institution, of which there are 72 in the United States but just one in West Virginia.

West Virginia University undertook its land-grant role in 1867, five years after President Abraham Lincoln signed the Morrill Land-Grant College Act and four years after the state broke away from its parent State of Virginia. Ever since it has been engaged in bringing "liberal and practical solutions to the industrial classes in the several pursuits and professions in life," which the Morrill Act specified.

Now, 117 years later, this remains West Virginia University's principal mission. This mission sets it apart from the other university and state and community colleges in West Virginia.

The land-grant mission in America is an evolving one. Originally established to serve agriculture and the mechanic arts, land-grant colleges now concentrate on instruction, research and service in furthering the principal occupations and social needs of modern society.

Change has been drastic in West Virginia. Although the state is said to be the nation's second most rural, employment in agricul-

ture has dropped from 62 percent of the work force in 1867 when WVU was founded, to 3 percent in 1980.[1] Therefore, as a modern land-grant institution, WVU needs to provide trained personnel and basic research:

- to aid the mining, petroleum and chemical industries through its College of Engineering and its College of Mineral and Energy Resources;
- to assist the manufacturing, retail trade and services industries, and small business through its College of Business and Economics;
- to help improve its public schools and colleges through its College of Human Resources and Education;
- to improve physical well being and health care delivery through its Schools of Medicine, Dentistry, Nursing, Pharmacy, Physical Education and Social Work;
- to promote better communication and knowledge through its School of Journalism;
- to provide cultural enrichment through its Colleges of Arts and Sciences and Creative Arts;
- to assure effective legal services and to work for equal justice through its School of Law;

as well as continuing to help the producers of food, fiber and timber through its College of Agriculture and Forestry.

The University conducts many of these scholarly and research activities at both the undergraduate and graduate levels. Some are carried on through the extension and continuing education division throughout the state at locations convenient to place-bound citizens of all ages.

So the land-grant concept has evolved from one which originally was designed to serve a predominately rural population to one which now also includes urban areas — and all the problems which such areas of population concentration create. West Virginia University has kept pace with these changes in its efforts to carry out its land-grant mission.

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[1]*Source:* Bureau of Census, Bureau of Economic Analysis.

This should be, and is, the University's overarching mission. This land-grant responsibility, which WVU discharges as effectively as possible within the constraints of its financial resources, is what makes the University unique among the institutions of higher learning in the state.

Recommendations

1. That the University's Board of Advisors, the President and his administrative associates, the faculty and staff continue to emphasize that the institution's principal responsibility is to serve both students and citizens so that they may contribute to the economic, social and cultural development of the people of West Virginia. This is the cardinal thrust of a land-grant institution.
2. That the State of West Virginia recognizes the land-grant universities as proven vehicles through which the states invest in themselves and their future, thereby reaping direct economic and social benefits which strengthen both the quality of life and the economy of the state. Such recognition carries with it the obligation to provide adequate financial support to enable the University to carry out its land-grant mission efficiently.

SECTION II
Better Utilization of Resources: Reduction and Modification of Programs

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In the Introduction of this report mention is made of some of the frequently overlooked strong points of West Virginia University. Throughout the reports of the Panels, which are included in Part C, the common theme is that WVU is performing its mission surprisingly well in view of its serious underfunding.

More dollar income is needed, to be sure. But some improvement in quality can be accomplished by redeploying resources. President E. Gordon Gee has called for a "carefully constructed combination of programmatic reductions, modifications, and expansions."

In his laudable effort to establish peaks of excellence as he emphasizes the drive for higher quality, President Gee will need to follow the example of other comprehensive universities in pruning and eliminating some existing programs which are less essential for the well-being of the state or which might be offered by other colleges in West Virginia.

Program Reductions

The Academic Planning Committee and several of the Benedum Study Project Panels have suggested consideration of such program eliminations as these:

a) Selected programs in Human Resources and Education.
b) Graduate work in Journalism.
c) Undergraduate Social Work.
d) Doctoral-level programs which do not have the necessary critical mass of faculty and students and which are not essential for academic viability. Specifically there are 31 doctoral programs which have not graduated three students over the last five years. They need to be, and are being, reviewed. See attachment.
e) Similar programs at the Master's level.
f) Combining certain doctoral programs now offered in several colleges.
g) The Aerospace Engineering program in the College of Engineering which is being subsumed under Mechanical Engineering.
h) Combining the separate College of Engineering and the College of Mineral and Energy Resources into one administrative unit.
i) Certain marginal programs in the College of Agriculture and Forestry.
j) A gradual reduction in the size of the Freshman class to be accomplished by raising admission standards.

Reduction and elimination of programs must necessarily take into account human factors involved: what to do about displaced faculty; how to accommodate students enrolled in the programs.

Fortunately, a faculty committee, established by the Vice President for Academic Affairs, is already at work establishing guidelines and procedures.

WEST VIRGINIA UNIVERSITY

Doctoral Degree Programs with Average Number of Graduates Less than Three Over Last Three Years

Program	*1980-81*	*1981-82*	*1982-83*	*Average*
Agriculture and Forestry				
Agricultural Biochemistry	0	2	0	.67
Agricultural Microbiology	0	0	1	.33
Agronomy	0	1	1	.67
Animal Nutrition	2	2	1	1.67
Forest Resources Science	4	2	2	2.67
Plant Pathology	1	0	0	.33
Arts and Sciences				
English	2	3	3	2.67
Geology	2	2	1	1.67
History	0	3	4	2.33
Physics	0	2	2	1.33
Political Science	1	2	3	2.00
Creative Arts				
Music	6	2	0	2.67
Engineering				
(Area of Emphasis)				
Aerospace Engineering	2	0	0	.67
Chemical Engineering	1	3	0	1.33
Civil Engineering	0	2	0	.67
Electrical Engineering	1	1	4	2.00
Industrial Engineering	1	0	1	.67
Mechanical Engineering	2	2	2	2.00
Human Resources and Education				
(Area of Emphasis)				
Health Education	2	0	2	1.33
Interdisciplinary Studies	1	1	3	1.67
Reading	4	2	2	2.67
Special Education	1	2	4	2.33

Program	*1980-81*	*1981-82*	*1982-83*	*Average*
Speech Pathology and Audiology	—	1	0	.33
Interdisciplinary Studies				
Genetics and Dev. Biology	1	4	0	1.67
Reproductive Physiology	0	3	0	1.00
Pharmacy				
Pharmaceutical Sciences	0	0	1	.33
Medicine				
Biochemistry (Medical)	0	1	3	1.33
Biomedical Sciences	0	0	0	0
Physiology (Medical)	1	3	0	1.33
Mineral and Energy Resources (Area of Emphasis)				
Mineral Engineering	0	0	3	1.00
Physical Education				
Safety Studies	2	0	1	1.00

Savings of several millions of dollars over the years would result by carrying out the reduction and modification program cited above. These savings could be used to strengthen other programs and disciplines mentioned in the following three sections.

Medical Education

More savings could be effected by modifying medical education in West Virginia. Neither the General Committee nor any of the Panels were asked to study medical education. Nevertheless, it is suggested that the President should seek counsel concerning the operation of the School of Medicine. (Most states of West Virginia's size support just one public medical school.)

Recommendation

Cost savings can be accomplished by modification, reduction and elimination of marginal academic programs. The resulting savings can be used to strengthen essential programs in undergraduate,

graduate and extension and continuing education mentioned in the next three sections. This redeployment of resources will aid WVU in maximizing its role as a land-grant university, in its drive for quality and in its effort to establish academic peaks of excellence.

As it implements modifications and reductions WVU must consider the human factors involved: faculty, staff and students. Close articulation with the other state colleges in West Virginia is urged. They may be able to absorb students and faculty members in those programs which WVU may elect to reduce or eliminate and which West Virginia students may need.

SECTION III
Strengthening Undergraduate Education

> "Education of undergraduate students through an admission process of openness to students of many backgrounds and diverse needs is a critical component of a successful land-grant university."

This statement of the Panel on the Land-Grant Mission emphasizes the importance of undergraduate studies at WVU.

The strength of the undergraduate curriculum has been the principal hallmark of WVU. It must continue to be so as efforts are made to strengthen and expand graduate studies and research. A sound undergraduate underpinning is the essential element as WVU strives to improve its quality of service to its students and the citizens of the state.

Undergraduate education at WVU includes both the basic disciplines in the liberal arts and sciences and professional studies. So that all undergraduate students receive a grounding in the humanities, social and physical sciences, WVU requires that students take a core curriculum program in general education. The core curriculum is now being reviewed and is expected to be revised by a Faculty Senate Committee in response to criticisms voiced by

students and faculty and suggestions offered by the Faculty Academic Planning Committee. We applaud this Senate activity.

The quality of the faculty and the student body is the essential ingredient of strengthening undergraduate education.

Faculty. Compared to peer institutions, WVU has fewer faculty per students in its undergraduate programs. Accordingly, classes are larger, some faculty members are overburdened, and many lower level courses are taught by graduate students, some of whom are ill-prepared for their teaching assignments.

Students. To relieve overcrowding and to bring WVU into "congruence with resources" the Board of Regents has recommended curtailing undergraduate enrollment. The University is considering a plan to reduce the undergraduate head count from 14,951 to about 13,750 by 1990. The University plans to achieve this reduction by raising admission requirements for both in-state and out-of-state students. It further plans an aggressive recruiting program to enroll better prepared students which, in turn, is expected to improve retention.

Whereas the Panels agree that admission standards should be raised, it questions what effect plans to reduce undergraduate enrollment will have on WVU's mission as a land-grant university and whether significant saving would actually result. These questions are spelled out in the report of the Panel on Enrollment Management in Part C.

Undergraduate Professional Programs

Four professional undergraduate programs were reviewed by the Benedum Study Panels — Agriculture and Forestry, Business and Economics, Human Resources and Education, and Journalism. The Panel on Science-based Technology considered the College of Engineering and the College of Mineral and Energy Resources but primarily with respect to graduate programs. Unlike reviewing committees of accrediting associations these Panels did not scrutinize individual academic offerings. Their observations deal principally with their assessment of how successfully the Colleges are fulfilling their goals. (See Part C for Panel Reports.)

In brief, these are the Panels' salient findings concerning how the undergraduate units in the Colleges can be strengthened:

Agriculture and Forestry

1. Program priorities should be focused upon the needs of West Virginia rather than continuing the full spectrum of courses offered in larger schools of agriculture.
2. Programs should capitalize on the unique heritage of West Virginia. Examples: rural life and community resources development; small farms and part-time farmers; forest and natural resources on small farms; parks and recreation; home economics and human nutrition; land use and soil reclamation; soil and water conservation; youth and 4-H.
3. College farms should be operated more efficiently but must be regarded as the laboratories to support the academic mission and not as a source of revenue to underwrite academic programs.
4. The College needs a sharper focus which will require shifts in allocation of resources. Possible centers of excellence: forest product utilization and rural resources economics.
5. Tie county extension staff and programs directly to appropriate subject matter colleges.
6. The biological sciences within the University could be strengthened through proper utilization of Agricultural and Forestry resources.
7. Agricultural Experiment Station activity can be improved if the state matches federal Hatch Act grant at appropriate levels.
8. The use of state of the art technology in telecommunications would improve and expand the delivery of Cooperative Extension Programs.

Business and Economics

1. The College needs to develop a clear sense of mission and the organization and plan required to achieve its purpose.
2. Expand continuing education; establish a program in Executive Education.
3. Improve undergraduate teaching and research facilities either through new construction or extensive remodeling of present building.
4. Improve faculty salaries and support in order to keep present professors and to recruit promising new ones in a highly competitive market.

5. Restore student morale, sagging because of large classes and poor facilities.
6. Seek private, alumni, corporate and federal funds to augment state support and tuition income.
7. The College should take whatever steps are necessary to maintain its accreditation with the American Assembly of Collegiate Schools of Business.

Human Resources and Education

1. The College should make a basic commitment to professional studies and the preparation of professionals that is reflected in mission, programs, organization, degrees, scholarship and services.
2. To improve pre-service and in-service teacher education, the College should develop "key schools" to serve as teaching/learning laboratories wherein College researchers can develop and field test alternative pedagogical methodologies and future teachers can learn firsthand new teaching techniques.
3. The College should reduce the miscellaneous array of courses and degree programs offered off-campus for teachers and administrators in the field.[1]
4. A comprehensive professional curriculum should include:
   - a disciplinary grounding in the social, behavioral and organizational management sciences,
   - multi- and interdisciplinary team-taught seminars bringing together the perspectives of both the academic disciplines and the practitioner, and
   - field experience in a key school.
5. The college should reorganize its programs from traditional disciplinary core areas (such as educational psychology, educational philosophy, history of education, etc.) to areas functionally represented in the field (teaching, administration, etc.).

[1]The Board of Regents' January 10, 1984 report recommends reducing undergraduate enrollment in teacher education at WVU in Morgantown but advocates that greater attention be given by WVU to in-service, recertification and graduate-level teacher education throughout the state.

Journalism

1. Since it is the only institution in the state offering an accredited program in Journalism, the School should continue and should strengthen its undergraduate curriculum. This recommendation is made even though the likelihood in the future is that Journalism will increasingly be taught at the graduate level.
2. Effort should be made to relieve the heavy overload of faculty members which makes it difficult to recruit and retain good teachers.
3. Advertising and Public Relations sequences should stay in the School of Journalism even though other colleges of WVU are seeking to acquire them. They are appropriate fields for the School of Journalism.
4. While most equipment is very good, that used in the news-editorial sequences is out-of-date and in bad repair.

Relations to the High Schools

One of the cross-cutting issues addressed in the Benedum Study was the Relationships of the University to the High Schools. While this report pertains to both undergraduate and graduate-research activities, it relates closely to the undergraduate program since the University receives high school graduates initially as underclassmen.

The report emphasizes that WVU's role should include transition from school to university and school-university partnership arrangements. Specific recommendations:

1. Establish the Office of University Admissions/School Relations headed by a Vice President.
2. Work with related secondary schools to define the desired subject matter content and skills desired of entering college students.
3. Establish an early talent identification program.
4. Establish a greater number and variety of college-level courses in the high schools of the state.
5. Work collaboratively with selected schools to develop techniques for assessing the conditions of schools in order to create solid agendas for school improvement generated at the local level.

6. Concentrate an array of school-focused research activities in a few "key" schools which ultimately will become centers for school renewal and pre-service and in-service teacher education.
7. Actively seek funds from philanthropic foundations to support school/college and school/university projects focused on school improvements.
8. Take the lead in creating a statewide consortium focused on upgrading public education throughout West Virginia.

Recommendation

The findings of the Panels on Undergraduate Studies, on Relations to the High Schools, and on Agriculture and Forestry, Business and Economics, Human Resources and Education and Journalism cited above should be implemented as soon as possible, taking into consideration fiscal constraints and priorities.

SECTION IV
Strengthening Graduate Studies and Research

With respect to graduate studies and research, the University's mission statement calls for:

1. an increase in the relative number of graduate students, in contrast to a gradual reduction in undergraduate enrollment;
2. a continuation of its doctoral programs, for which WVU will retain sole statewide authority, as well as master's degree programs;
3. continued expansion in both basic and applied research, the latter concentrating on studies of value to the economic, industrial and social development of the state.

To enable the University to carry out this mission, the Panel on Graduate Studies and Research calls for a partnership between the state and the University. It asserts that West Virginia cannot afford *not* to support adequately the graduate and research program of the University since this educational asset represents the principal means by which the state can develop and improve the

economic and social well-being of its citizens. The Panel believes that West Virginia, lagging economically, has a greater need for a comprehensive graduate and research university than its more affluent neighbors.

The Panel calls upon the University to improve the utilization of its resources by phasing out marginal graduate programs and strengthening others and urges the University to aggressively seek private, corporate, foundation and federal funds to augment state tax and student tuition dollars.

Obstacles Limiting Improvement in Graduate Studies and Research

Panels that have reviewed graduate and research activities all cite underfunding as the chief obstacle to be overcome in the planned effort to improve this area of the University's service to its students and the people of West Virginia.

While lack of resources plague all divisions of WVU, the problem is especially troublesome in the graduate unit where personnel and facilities and equipment costs are high. The Panels have emphasized:

- that faculty and staff salaries, in comparison with peer institutions, are too low to recruit and retain outstanding teachers and researchers;
- that teaching loads are excessive and therefore interfere with, and limit, research productivity;
- that young, promising researchers are not provided with the assistance, incentive and seed money to obtain corporate and federal grants and research contracts;
- that teaching assistants are underpaid (less than one-half the national average) and overworked, resulting in WVU's inability to recruit promising graduate students in a competitive market.
- that, for the most part, instructional and research facilities and equipment and instrumentation are inadequate and outmoded.

Programs to Strengthen

To overcome the limitations, WVU will need more state funds, tuition income, private and federal support and will also need to

redeploy existing resources. Efforts are already underway in these directions but some will require considerable time. In the interim, WVU should concentrate on strengthening and nurturing those graduate and research activities that will provide the necessary trained personnel and the research know-how to aid in improving the state's economic and social development. The aim must be to strive for quality in a relatively narrow range of graduate offerings.

There are some unusual economic factors in West Virginia. (See the background paper, "Economic Factors" included in the Appendix.) Panels have suggested these specific roles in graduate studies and research:

- In the College of Engineering and the College of Mineral and Energy Resources, instructional programs and research related to coal, petroleum and gas; to chemicals, steel and glass manufacturing; to construction and utilities;
- In the College of Agriculture and Forestry, programs to aid farm and livestock production, forest growth and forest production utilization, tree fruits, travel and tourism, wildlife, parks and recreation, reproductive physiology;
- In the College of Business and Economics, programs to serve small business, wholesale and retail trade, transportation and the services industry;
- In the College of Human Resources and Education, graduate programs and research to provide personnel to improve the quality of education in the state's schools and colleges;
- In the College of Arts and Sciences, academic programs to support the activities of the professional schools; programs in public administration to help upgrade governmental services, and programs to further cultural enrichment.

These examples are not all inclusive and there is no intention here of suggesting the foreclosing of other graduate and research activities. However, limited resources impel WVU to select carefully and to focus attention on those areas that can best serve the interests of the state and its citizens.

Consideration should be given to introducing more interdisciplinary graduate programs involving the professional schools as

well as Arts and Sciences and also to developing mission-oriented research activities related to the state's economy.

The University's current policy of placing more emphasis on scholarly research and publication in recruiting new faculty should be continued. Likewise, the modification of criteria for tenure and promotion, assigning more weight to research, rather than centering primarily on teaching ability, needs to be enforced if WVU is to improve its performance in graduate work and research. Similarly, the current plans to upgrade the graduate faculty should be carried out.

Recommendation

West Virginia University needs to forge a partnership with the state. It should take the leadership role along with business, labor and government in determining the economic and social thrusts which must be developed to improve the well-being of the people of West Virginia. This statewide activity should reveal specific graduate programs and research efforts which must be nurtured and strengthened. Conversely, it should indicate which ones should be reduced, assigned to other state colleges, or terminated.

In its continuing effort to redeploy resources, WVU must remember that it cannot afford to dissipate its efforts and resources on even traditional academically-sound programs if such programs do not specifically serve the current needs of its students or the state or which the students might better pursue at other institutions.

SECTION V
Strengthening Extension and Continuing Education

One of the responsibilities of a land-grant university is to furnish instruction and knowledge to place-bound citizens of the state at locations convenient for them.

Originally such instruction and service was in "agriculture and mechanic arts." Now, in the late 20th century, land-grant institutions must serve the needs of an ever changing society and social

order whose people are engaged in new occupations and who encounter new problems and new life styles.

West Virginia University carries on this phase of its land-grant mission through its Center for Extension and Continuing Education in six broad program areas:

Social and Economic Development
Agriculture, Forestry and Community Development
4-H Youth Development
Off-Campus Credit Programs
Personal and Family Development
Non-Credit Programs

Some Existing Programs

Some examples of the University's outreach efforts are:

1. Agricultural Production, Management and Marketing: Conducts demonstration activities in soil testing, livestock and dairy performance testing, plant and insect pest identification and electronic farm accounting.
2. Forest Management and Marketing: Provides management assistance to fuel woods, maple syrup, and Christmas tree industries. Also assists in marketing for logging, processing, and wood fabrication industries.
3. Community and Rural Development: Works to link resources in rural communities to improve housing, transportation, health, education, and social services and facilities.
4. Public Affairs and Citizenship Education: Extension Agents provide unbiased information on public policy issues to encourage increased citizen participation and informed decision making in the processes of public governance.
5. Food and Nutrition Education: Extension Agents work with the Federal Expanded Food and Nutrition Program to extend educational information to low income families in selected communities and areas of rural poverty.
6. Safety Education: Using OSHA grants, Extension Specialists have developed educational programs on the safe use of farm equipment, pesticides and logging and sawmill equipment.

7. Energy Conservation: Extension Agents promote home energy conservation practices and improved thermal performance of residential dwellings.
8. Labor Education and Research: Extension professionals work to enhance labor's involvement in West Virginia's social, economic and human resources development.
9. Fire and Rescue Education: Through a Memorandum of Understanding between West Virginia University and the West Virginia State Fire Commission, training is provided in fire suppression, rescue and support services.

Suggestions for Improvement in Extension and Continuing Education

Several Benedum Study Panels have reviewed various activities in Extension and Continuing Education and have offered these suggestions to strengthen the program:

- The University should conduct a comprehensive statewide survey to learn what West Virginia needs in continuing education that is not now being offered.
- The administrative head of Continuing, Cooperative and Extension Education should be one of the key administrative officers of the University, reporting directly to the President or Vice President for Academic Affairs. He or she should coordinate all programs in Extension and Continuing Education. But the responsibility for personnel, program planning, implementation, evaluation and resource allocation must be placed in the Collegiate units under their respective Deans.
- The key to success in Extension and Continuing Education is entrepreneurship. It is essential that the University obtain adequate support for all programs offered from the state, federal, county, local, and/or tuition income; that faculty receive adequate financial rewards; that faculty rules for promotion and tenure take into consideration time and effort expended in Extension and Continuing Education.
- The University should make better use of such electronic aids as television videotapes, teleconferences, etc., in the delivery of courses off-campus.

- Extension agents should be responsive to needs in business, industry, engineering, mining, etc., as well as the needs of agriculture and forestry.
- The University should strengthen its extension programs in engineering since the promise of an up-to-date work force of engineers is indispensable in reinforcing the technological base of the state.
- County Extension Staff and programs should be tied to appropriate subject matter colleges. Extension's role is to assemble, interpret, and transfer relevant technology and information to clientele groups. To avoid the "hollow tube" syndrome, Colleges must provide information derived through academic programs.
- As a counterpart of its Agricultural Experiment Station, WVU should establish an Engineering Experiment Station or a Regional Technology Center to encourage enhancement of value added to the natural resources of the state.
- The University should not only serve the needs of the typical college-age student in its Extension and Continuing Education but should also expand instruction for the atypical student and the life-long learner. It should respond to adults who are interested in upward mobility, mid-career changes, cultural enrichment and recreation.

Recommendation

An educated citizenry is the human capital in today's industrial society. What happens to students young or old will have a direct bearing on the economic and social future of West Virginia. Its flagship, land-grant university has a responsibility to serve not only the resident students on the campuses in Morgantown, but also those citizens in the 55 counties who need and want instruction and services that WVU is qualified to provide. This is one of WVU's greatest challenges and some way must be found to obtain the finanical support such a comprehensive operation requires. A combination of state, federal, county, private and corporate funds, plus student fees, is the practice used in other states. West Virginia follows this practice but obtains lesser amounts from student fees. This source of funding should be reviewed and studied.

SECTION VI
Faculty and Staff Salaries and Welfare

The Salary Situation

Inadequate faculty salaries are cited whenever outside evaluators examine conditions at the University and emphasize its underfunding.

It is not difficult to document that faculty salaries at WVU are low compared to peer institutions. For example:

- Compared with Regional and National Land-Grant Institutions, average salaries in 1982-83 for WVU Assistant, Associate and Full Professors were lower by three to six thousand dollars. (See Figure 1.)
- Compared with peer institutions — Kentucky, Maryland, Penn State, Pittsburgh and VPI, average salaries for 1982-83 for Assistant, Associate and Full Professors at WVU were the lowest in all three ranks. (See Charts 1, 2 and 3.)
- In a comparison by discipline and rank for 1983-84, WVU falls *below* the *national* average in 45 of the 50 categories, by percentages varying up to 27 percent. On the *regional* average WVU is *below* in 40 of the 50 categories by percentages ranging up to 26 percent. The only disciplines in which WVU are slightly *above* the regional average are Coal Research, Chemical, Electrical, Industrial, Mechanical and Petroleum Engineering and Religious Studies and Speech Communication. (See Table A.)
- On a statewide basis for comprehensive institutions offering doctoral degrees West Virginia, at an average nine-month faculty salary of $24,627, is the lowest in the nation, except for Mississippi $24,252, and South Dakota $22,797. (See Table B.)
- Among all the four-year public and private colleges and universities in West Virginia, WVU is in the lowest category (below the 20th percentile) established by the American Association of University Professors on average compensation. WVU is in Category I, Marshall in IIA, and all the others in IIB. (See Table C.)

WVU faculty members are not only underpaid, but their additional benefit package is lower in comparison with their peers elsewhere. In West Virginia, for example, WVU's benefits average 17 percent of salaries, whereas no other state college or university is lower than 18, and others are 19, 20 and 21 percent. (See Table C.)

At WVU, Graduate Assistants' compensation is less than one-half the national average. Graduate students perform important teaching and research tasks. Unless WVU becomes more competitive in its stipends, it will be increasingly difficult to attract outstanding graduate students.

Staff personnel also are underpaid at WVU. One classic example is in skilled craft positions where the WVU scale is about $13,000 annually compared with $14,000 to $14,500 in higher education and from $16,800 to $22,000 in industry. (See Figure 2.)

Other Considerations

Poor salaries and benefits are not alone in causing low morale among faculty and staff personnel. The two-year hiatus without salary increases was exacerbated by a state ruling that any increase must be on an across the board basis, without regard for merit. This has tended to compress salaries, leaving little incentive for outstanding performance.

Meanwhile, faculty members have been disadvantaged by lack of travel funds to attend professional meetings, shortages of instructional and staff support and relatively heavy teaching loads. Additionally, teaching, research and office facilities, for the most part, have not met the standard at peer institutions.

Faculty salaries at WVU would show up even more unfavorably on the AAUP scale if the distribution by academic rank was at the national average. WVU has a smaller percentage of full professors and a larger percentage of associate and assistant professors than the national average. If the present 28.3 percent of faculty who are now professors was raised to the national average of 33 percent, the higher pay required by professors would lessen the amount available for associates, assistants and instructors. (See Figure 3.)

In light of inadequate compensation it is understandable that WVU has suffered "promotion by resignation" — a loss of some of its best faculty members to other universities and to industry and the professions. The exodus of talented teachers and researchers is WVU's greatest continuing threat in its drive to upgrade the quality of the institution. Bereft of new resources, the administration has tried to stem the tide of resignations by compressing faculty ranks and allocating resulting savings to those remaining. This has helped in certain colleges but is self-destructive unless enrollment is reduced. Faculty ranks are already thin compared to similar institutions.

For the first time in three years, WVU faculty will receive a general salary increase, averaging 7½ percent, in September 1984. This sorely needed increase was recommended by the Governor and approved by the Legislature in March 1984. Welcome as it will be, it probably will not bring WVU faculty and staff salary scales into any better alignment nationally and regionally than at present, inasmuch as other states are also granting salary adjustment. Nevertheless, the increase should help WVU to recruit some good, young faculty talent, especially since there appears to be an ample supply of able college teachers except in certain highly competitive fields, such as engineering, business, computer technology, etc.

A more serious problem will be to retain some of the dedicated and able teachers and researchers who have remained in Morgantown hoping that ways would be found to improve their compensation and working conditions. A 7½ percent general increase over a three-year span, even with inflation somewhat in check, is not very encouraging.

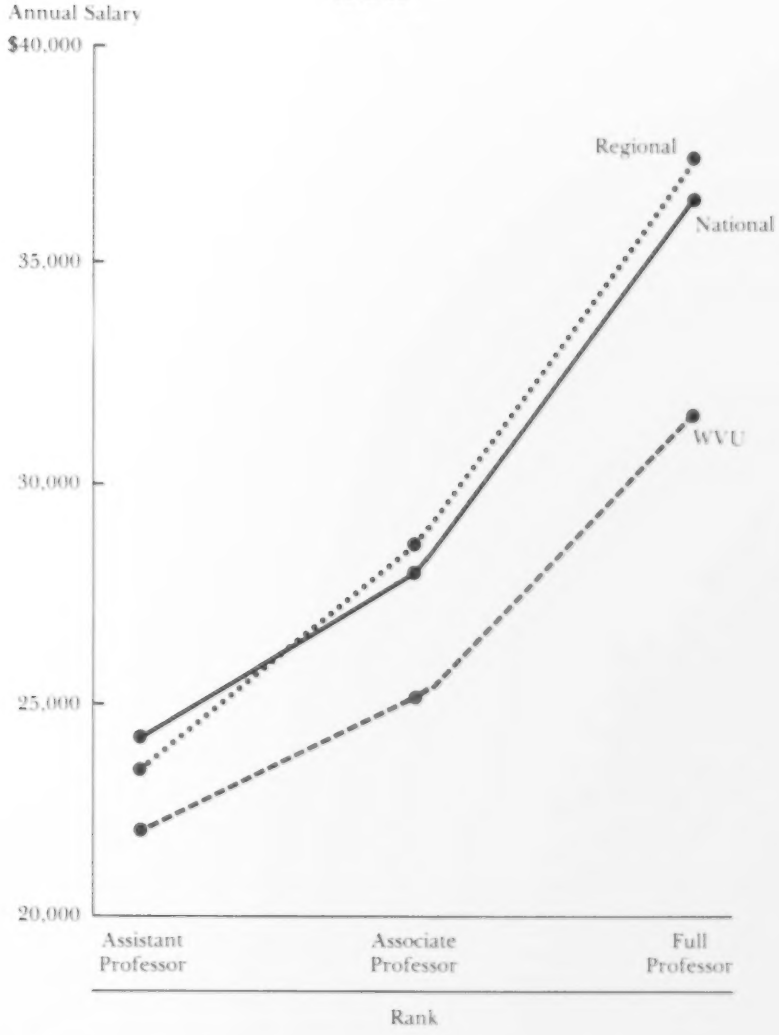
Recommendation

In its commendable drive for quality, WVU must make its number one priority the improvement of faculty and staff salaries. The distinction of any institution of higher learning is measured primarily by the quality of its faculty. Good teachers will attract good students. Good scholars and researchers will produce the mission-oriented research the state needs as it strives for economic recovery.

WVU, to be sure, has other pressing needs—improved facilities and equipment for teaching and research, more generous additional benefit programs for faculty and staff, improved instructional support including library holdings and computer technology. Important as these are, the overriding need is to bring faculty salaries in line with peer institutions. No other single effort will accomplish as much in strengthening the University.

Some specific suggestions: a) establish a salary improvement plan with stated targets; b) use merit principle whenever possible; c) have overlay salary plans for critical fields; d) create University Distinguished Professorships (no more than one percent of faculty) rewarded with salary adjustments and perquisites; e) improve arrangements for extension faculty; f) demand new standards and expectations for faculty research and professional activity.

Figure 1
Comparison of WVU Average Faculty Salaries with Regional* and National Land-Grant Institutions 1982-83

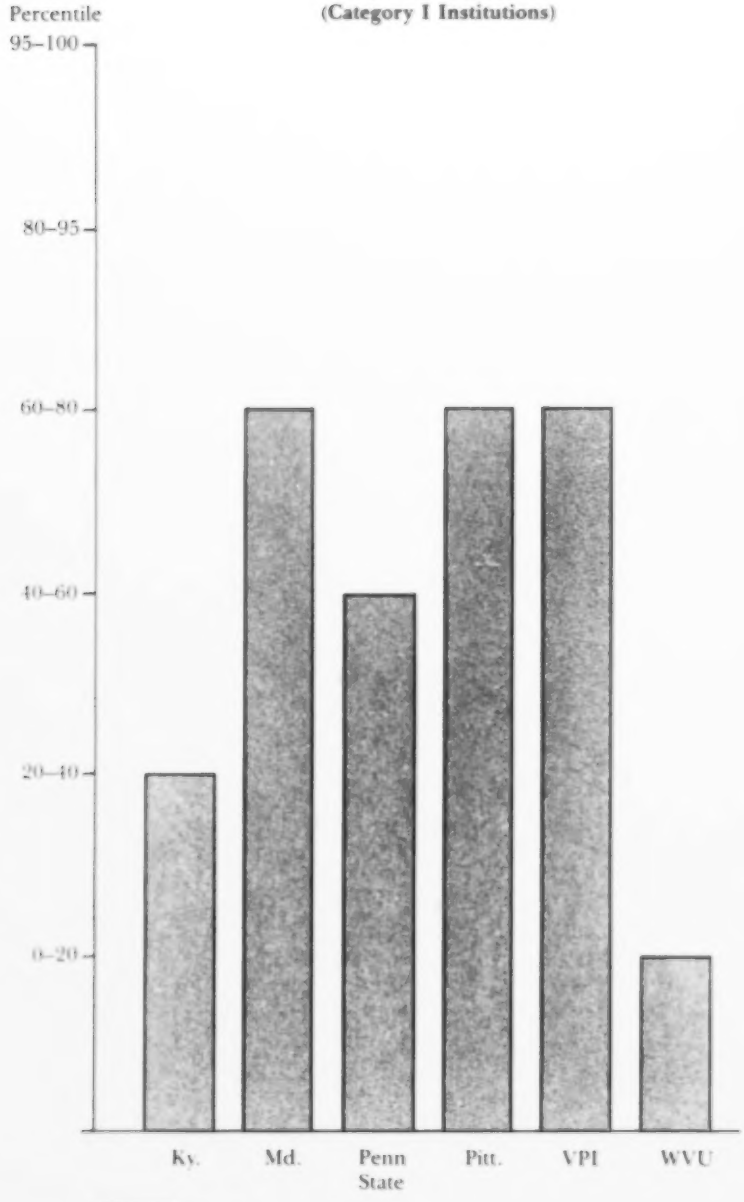


*Region includes West Virginia, Virginia, Kentucky, North Carolina, South Carolina, Mississippi, Alabama, Georgia, Florida, and Louisiana.

Source: Oklahoma 1982-83 Faculty Salary Survey By Discipline.

Chart 1
Average Salaries of Professors

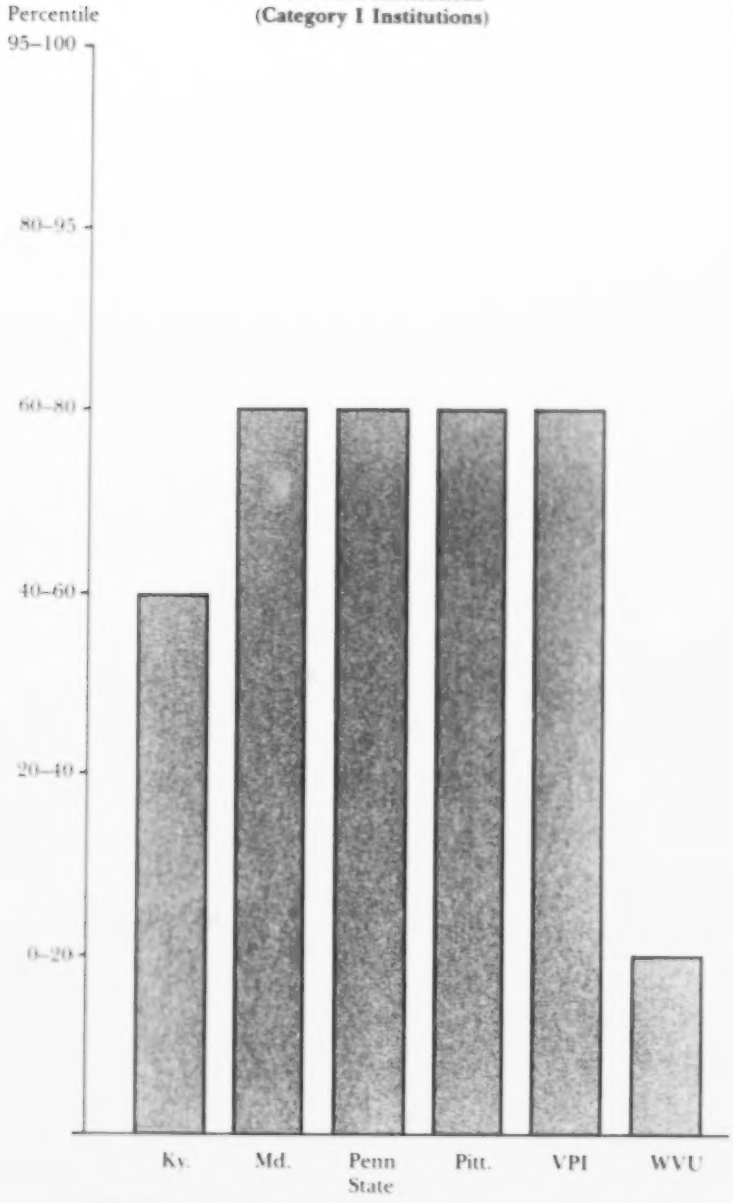
WVU Peer Institutions
(Category I Institutions)



Source: *ACADEME*, July-August 1983.

Chart 2
Average Salaries of
Associate Professors

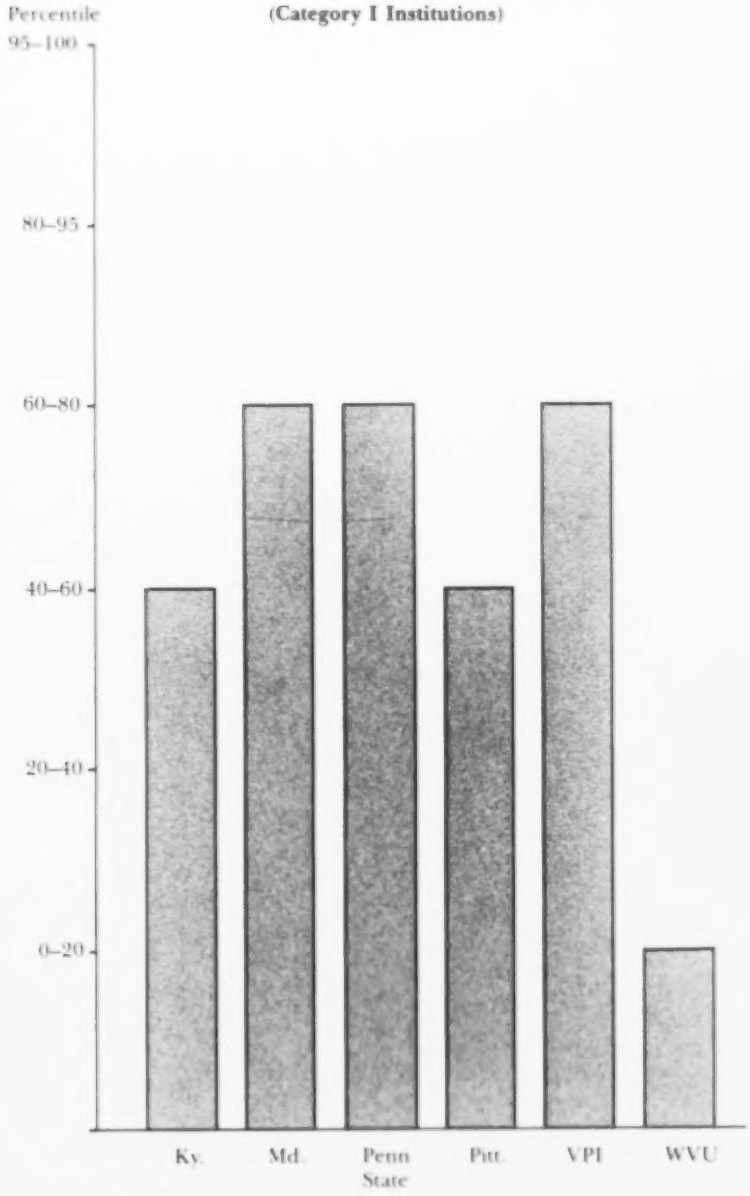
WVU Peer Institutions
(Category I Institutions)



Source: ACADEME, July-August 1983.

Chart 3
Average Salaries of
Assistant Professors

WVU Peer Institutions
(Category I Institutions)



Source: ACADEME, July-August 1983.

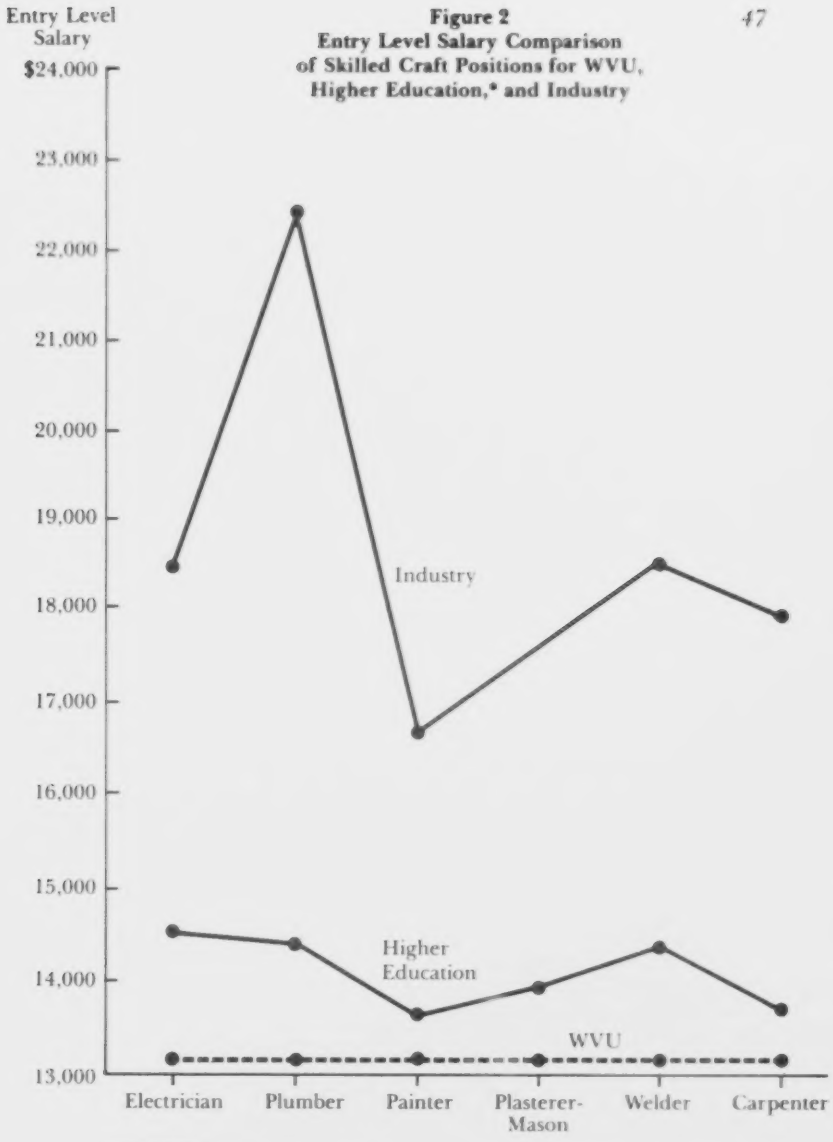
Table A
Comparison of WVU Faculty Salary With Regional and National Salary by Discipline

WVU % Above or Below Regional	*WVU Discipline*	*WVU % Above or Below National*
− 3.7	Accounting & Finance	− 4.8
− 8.7	Animal & Vet Sciences	− 6.5
−12.2	Art	−15.3
−12.7	Biology	−16.0
+ 5.0	Chemical Engineering	+ 1.4
−20.4	Chemistry	−22.0
− 3.4	Civil Engineering	− 7.2
+ 6.1	Coal Research	+ 1.7
−10.2	Counseling & Guidance	−11.7
−12.4	Curriculum & Instruction	−14.3
−10.8	Economics	−10.0
− 5.2	Educational Administration	− 7.8
−14.5	Educational Psychology	−11.7
+ 1.0	Electrical Engineering	− 2.4
−14.5	English	−20.0
−18.6	Family Resources	−17.7
− 9.4	Foreign Languages	−11.9
−12.1	Forestry	− 9.0
−16.9	Geology	−19.5
−11.4	Geography	−13.4
− 7.9	Health Education	−12.1
−11.7	History	−13.9
+ .9	Industrial Engineering	+ 2.6
− 6.8	Journalism	− 3.8
− 2.9	Law	− 2.9
−26.3	Library Science	−26.9
−12.1	Management	−10.2
− 5.3	Marketing	− 7.2
−15.6	Mathematics	−21.3
+ 7.0	Mechanical Engineering	+ 3.5
+ 6.4	Aerospace Engineering	− 4.3
− 6.4	Music	−13.3
− 8.8	Nursing	− 8.4
+ 6.7	Petroleum Engineering	− 3.2

WVU % Above or Below Regional	*WVU Discipline*	*WVU % Above or Below National*
−16.3	Pharmacy	−16.5
− 9.8	Philosophy	−14.2
−17.2	Physical Education	−18.6
− 9.5	Physics	−12.0
−24.4	Plant Sciences	−19.2
− 2.5	Political Science	− 8.4
−22.2	Public Administration	−17.6
−12.7	Psychology	−17.0
+ 1.6	Religious Studies	+ 3.8
—	Resources Management	−15.7
—	Safety	—
−12.3	Social Work	−15.2
−18.4	Special Education	−16.9
+ 1.0	Speech Communication	− 4.8
−16.2	Speech Pathology	−24.6
− 2.8	Statistics & Computer Science	− 6.5
−16.7	Technology Education	−18.7
− 4.0	Theatre	−13.0

Source: Oklahoma 1983-84 Faculty Salary Survey by Discipline
Office of Institutional Research, West Virginia University, March, 1984.

Figure 2
Entry Level Salary Comparison of Skilled Craft Positions for WVU, Higher Education,* and Industry



*Higher Education includes Ohio State, Penn State, Georgia, Maryland, Cincinnati, Vanderbilt, and Virginia Tech.

Note: No Plasterer-Mason position in industry.

Source: WVU Office of Personnel.

Table B
Number and Average Salaries of Full-Time Instructional Faculty on Nine-Month Contracts by State and by Type of Institution, 1982-83

State	*Doctoral Institutions*		*Comprehensive Institutions*		*General Baccalaureate Institutions*		*Two-Year Institutions*	
	Number	*Average*	*Number*	*Average*	*Number*	*Average*	*Number*	*Average*
Alabama	1,351	$25,684	1,740	$22,088	59	$21,615	928	$21,439
Alaska	—	—	—	—	—	—	—	—
Arizona	2,237	32,118	418	28,300	—	—	1,395	27,255
Arkansas	500	27,358	854	23,048	392	20,883	284	18,312
California	5,265	33,912	10,936	31,331	—	—	12,783	31,617
Colorado	2,092	28,647	591	25,816	770	26,036	931	20,893
Connecticut	—	—	977	28,120	117	28,087	705	24,282
Delaware	711	29,093	—	—	118	24,387	143	22,819
District of Columbia	—	—	647	28,459	—	—	—	—
Florida	2,705	29,639	1,668	25,922	—	—	2,850	20,922
Georgia	1,514	29,453	1,504	23,629	357	24,245	857	21,738
Hawaii	833	30,716	—	—	177	25,547	462	25,876
Idaho	312	26,735	578	23,674	50	22,489	167	21,606
Illinois	5,015	28,401	2,186	23,575	—	—	4,846	26,290
Indiana	2,832	28,374	1,774	24,752	212	23,396	716	17,938
Iowa	1,719	29,152	543	25,187	—	—	604	20,323
Kansas	1,610	28,530	1,059	24,263	179	26,028	874	21,204
Kentucky	1,177	28,485	1,346	24,449	318	22,971	501	19,217
Louisiana	930	27,944	2,941	24,448	218	23,707	331	21,432
Maine	—	—	660	25,281	143	22,023	199	19,893
Maryland	—	—	1,185	27,091	202	27,076	1,670	26,605
Massachusetts	1,157	33,536	1,433	28,244	315	25,717	1,494	23,057
Michigan	4,231	31,333	2,450	26,504	869	24,845	2,823	27,994

Minnesota	1,275	32,256	1,813	26,964	219	26,952	691	26,196
Mississippi	1,240	24,252	510	21,660	241	18,348	1,088	17,786
Missouri	921	28,425	280	23,184	281	22,468	964	23,812
Montana	376	27,265	425	27,048	235	22,523	67	22,269
Nebraska	779	28,292	719	22,859	115	21,029	268	19,303
Nevada	—	—	595	30,669	—	—	133	23,816
New Hampshire	476	26,268	—	—	295	21,762	165	18,238
New Jersey	1,106	33,664	2,152	30,446	824	29,257	1,636	25,780
New Mexico	1,084	28,734	271	26,959	—	—	294	21,799
New York	2,556	34,627	3,312	28,127	295	25,957	5,399	26,133
North Carolina	—	—	—	—	—	—	851	16,217
North Dakota	394	26,668	232	26,110	258	24,491	293	23,439
Ohio	6,132	29,640	1,274	28,052	—	—	2,258	22,912
Oklahoma	1,364	28,504	885	28,458	525	26,692	896	24,049
Oregon	—	—	597	25,588	74	23,362	1,556	24,035
Pennsylvania	2,209	29,259	4,107	29,089	247	26,931	2,401	23,445
Rhode Island	571	29,409	348	25,002	—	—	275	23,880
South Carolina	880	27,674	1,111	26,188	633	22,260	652	18,424
South Dakota	251	22,797	206	22,164	261	21,078	81	20,697
Tennessee	1,677	26,651	1,950	24,251	—	—	706	19,520
Texas	5,358	30,933	5,522	26,373	60	24,594	4,993	24,472
Utah	1,194	29,825	—	—	450	24,701	350	21,914
Vermont	431	27,274	—	—	176	22,070	59	21,360
Virginia	2,395	29,877	2,561	25,365	509	23,802	1,941	21,243
Washington	570	27,657	966	26,959	112	27,093	1,954	24,586
West Virginia	614	24,627	357	22,524	862	21,363	191	18,174
Wisconsin	2,002	31,804	2,843	26,764	159	26,574	2,288	25,687
Wyoming	518	31,956	—	—	—	—	385	25,324

Source: U.S. Department of Education, National Center for Education Statistics, *Bullletin* (September 1983), Tables 4.1, 4.2, 4.3, and 4.5.

Table C
West Virginia Institutions of Higher Education
Comparative Salary Data

Category[1]	*Institution*	*Rating of Avg. Sal.*[2]				*Average Salary by Rank (in thousands)*[3]					*Rating of Avg. Comp.*[2]				*Average Compensation by Rank (in thousands)*					*Ben. as % of Salary*
		Pr	*Ao*	*Ai*	*In*	*Pr*	*Ao*	*Ai*	*In*	*Ar*	*Pr*	*Ao*	*Ai*	*In*	*Pr*	*Ao*	*Ai*	*In*	*Ar*	
Public I:	West Virginia University	5	5	5	5	31.7	25.7	20.7	16.6	25.1	5	5	5	5	37.4	30.3	24.3	18.5	29.5	17
Public IIA:	Marshall University	5	5	5	5	27.8	23.9	19.8	15.4	22.5	5	5	4	5	32.6	27.4	23.6	18.2	26.6	18
Public IIB:	Bluefield State College	4	4	3	4	23.5	20.6	18.5	15.2	18.8	4	3	3	3	28.1	24.8	22.3	18.3	22.6	20
	Fairmont State College	3	3	2	3	26.3	22.0	19.5	16.5	22.4	3	3	2	2	30.8	25.9	23.1	19.7	26.3	18
	Glenville State College	4	4	3	3	24.2	21.0	19.0	16.4	19.4	4	3	2	2	29.2	25.4	22.9	19.7	23.4	21
	West Liberty State College	3	3	3	3	25.8	21.5	18.5	16.5	22.0	3	3	3	2	30.4	25.5	22.2	20.1	26.1	19
	W. Va. Inst. of Technology	3	3	2	2	26.4	22.4	19.4	16.7	21.6	3	3	2	2	31.4	27.0	23.3	20.0	25.8	20
	W. Va. State College	3	3	3	3	26.0	21.7	18.9	16.2	21.3	3	3	2	3	31.1	26.2	22.8	19.3	25.6	20
Private IIB:	Alderson Broaddus College		4	4	4	—[5]	20.3	16.9	14.6	18.1		4	4	4	—	24.0	20.1	17.5	21.5	19
	Bethany College	3	3	4		26.1	21.1	17.5	—	20.5	2	3	4		32.5	26.0	20.6	—	25.0	22
	Davis & Elkins College	5	5	4	4	21.3	17.6	16.4	14.5	17.7	5	5	4	3	25.4	21.2	20.0	18.1	21.4	21
	Salem College-Main Campus		5	5	4	—	18.4	15.0	14.2	15.7		5	5	5	—	21.0	16.7	15.4	17.5	12
	Shepherd College	3	2	2	2	27.3	23.0	20.3	17.2	22.3	3	2	2	2	32.2	27.5	24.3	20.8	26.6	19
	University of Charleston	5	2	5	3	21.1	23.8	16.2	16.5	19.6	5	3	5	3	23.9	26.3	18.1	18.2	21.8	12

	W. Va. Wesleyan College	4	4	3		24.3	20.8	18.5	—	21.0	3	3	2		30.0	25.6	22.9	—	25.9	23
	Wheeling College	3	4	3	4	26.1	20.9	18.1	15.0	19.8	3	3	3	3	30.6	24.7	21.2	17.9	23.2	18
Public IIC:	W. Va. College of Grad. St.	2	2	3		30.7	25.3	20.0	—	26.1	2	2	3		36.5	30.3	24.8	—	31.2	20
	W. Va. Sch. Osteop. Med.	NO DATA REPORTED																		
Private IIC:	Appalachian Bible College	NO DATA REPORTED																		
Public III:	Parkersburg Comm. College	5	5	5	4	23.4	20.4	17.3	15.5	19.1	5	4	4	4	27.7	24.8	21.4	19.3	23.3	22
	Potomac State College	5	5	5		23.2	19.8	17.3	—	19.7	5	5	5		27.4	23.6	20.9	—	23.5	19
	Southern W. Va. Comm. Col.			4	5		—	17.9	14.7	16.5			5	5		—	20.3	16.7	18.8	14
	W. Va. Northern College	5	5	5	5	22.6	19.0	16.9	14.5	17.6	5	5	5	5	27.6	23.6	20.9	17.5	21.6	23
Private III:	Beckley College	5				16.9				16.9	5				20.0				20.0	18
	Ohio Valley College			5				16.5	—	15.2			5				19.4	—	17.7	17

[1]Category I: Doctoral-level Institutions; Category IIA: Comprehensive Institutions; Category IIB: General Baccalaureate Institutions; Category IIC: Specialized Institutions; Category III: Two-year Institutions with Academic Ranks

[2]Ratings given in percentiles:

1* = 95% or above; 1 = 80% to 94.9%; 2 = 60% to 79.9%; 3 = 40% to 59.9%; 4 = 20% to 39.9%; 5 = below 20%

[3]Average contracted salary, adjusted to academic-year basis. The All Ranks (AR) figure includes the rank of lecturer.

[4]Average salary plus average fringe benefits. The All Ranks (AR) figure includes the rank of lecturer.

[5]Dash (—) indicates insufficient number of respondents.

Source: Academe, July-August, 1983.

Figure 3
West Virginia University
Percentage of Faculty Members within Ranks

	1982-83[1]	*%*	*1982-83*[2] *National %*
Professor	357	28.3	33.0
Associate Professor	400	31.7	29.0
Assistant Professor	378	30.0	27.9
Instructor	74	5.9	8.5
Lecturer	51	4.0	1.6
TOTAL*	1,260		

*Excludes chairpersons

[1]*Source:* WVU Office of Personnel Census File.
[2]*Source: Academe*, July-August, 1983, p. 18.

SECTION VII
Funding and Finance

Background

Most of the Panels of the Benedum Study Project, as well as regional and professional accrediting associations, cite inadequate funding as a principal problem at West Virginia University.

The University's underfunding in comparison with peer land-grant colleges shows up in low faculty salaries, the number of faculty per students, inadequate facilities and equipment in many areas, low stipends for graduate assistants, etc.

The situation respecting faculty and staff salaries and benefits is documented in Section VI.

While low faculty salaries is the problem of first magnitude, WVU also is handicapped in carrying on its educational mission by inadequate instructional support, especially in the library collection and computer services. As to the Library, WVU's current holdings of 1,030,000 volumes is some 300,000 volumes short according to

the Clapp-Jordan Library Formula and annual expenditures for books and periodicals are less than those at peer institutions. As to computer support, the Panel on Computers states that WVU "is well behind its sister institutions in the country (in computer technology) and unless changes are made this distance will lengthen to the point of almost irretrievable recovery." (See Part C.)

State Funding

Underfunding by the state is the most critical problem WVU now faces. A study completed by Frederick S. Lane and James S. Lawrence, in January 1984, entitled *State Funding of West Virginia University: A Comparative Analysis of West Virginia University and Peer Institutions* reveals:

1. That the instructional portion of WVU's budget is significantly poorer than those of peer institutions across the country;
2. That if WVU was located in Kentucky, Maryland, Tennessee or Virginia it would have received between $6.4 million and $15.7 million more state dollars than it actually did in 1983-84;
3. That as many as 100 more faculty positions are justified because of high student-faculty ratios at WVU.

The Lane-Lawrence report asserts that the prime reason for WVU's underfunding by the state is not the inability of the state to allot more dollars for higher education since West Virginia's tax capacity is greater than Tennessee and Kentucky and only slightly lower than Virginia and Maryland. The authors contend that the real problem is that the West Virginia Board of Regents does not use a rational formula basis for the allocation of funds to the state's universities and four- and two-year colleges. Accordingly, in the allocation of funds, WVU's role as the flagship institution, the comprehensive land-grant college, engaged in graduate, graduate professional, and research activities, is not treated as a unique institution but is funded essentially on a full-time equivalent student basis.

The Budgeting Process

As with the other public institutions of higher learning — Marshall University, the state colleges and community colleges — West Vir-

ginia University submits its operating budget request annually to the Board of Regents.

The Regents have broad statutory authority with respect to budgets. Regents are authorized to "consider, revise and submit to the appropriate agencies of the executive and legislative branches of the state government, separate budget requests on behalf of the state colleges and universities; or the Board may, in its discretion, submit a single budget for the state colleges and universities, but, if a single budget is submitted, it shall be accompanied by a tentative schedule of proposed allocation of funds to the separate colleges and universities."

In actual practice, the Regents submit a single budget. WVU, therefore, operates budgetwise under this constraint.

Another constraint, which was not removed until the 1984 session of the Legislature, was to deny access to the Legislature by officials of the colleges and universities.

Student Fees

Student tuition and fee income, for the most part, is used for capital purposes—servicing the bonded indebtedness on campus buildings and providing for repairs and modernization — rather than being available for current operations as is the practice at many state universities. Moreover, student charges are relatively modest compared with peer institutions. On the overall University budget of $236 million in 1983-84, including the Medical Center and Potomac State College, student fees accounted for only 12 percent with state appropriations totaling about 33 percent.

Observations

Even though the principal sources of revenues for operating purposes for the general funds budget — state appropriations and student fees — are lower at West Virginia University than at peer state universities, Benedum Study Panels have suggested changes which may enable WVU to use its funding sources more productively. Among those cited are the easing of restrictions on budgeting arrangements, accounting, personnel, control of finance, management, and the level of appropriations for operations and capital construction.

Specific Recommendations

1. *State Appropriations*

That the West Virginia Board of Regents adopt a rational formula basis for the allocation of state dollars to higher educational institutions, recognizing the unique obligations of WVU which offers high cost professional, graduate, and graduate-professional programs. In such a formula consideration should also be given, as it is in other states, to the research and service functions performed by the land-grant university.

More than half of the state governing and coordinating boards across the nation employ a formula basis in the allocation of tax dollars to colleges and universities. In West Virginia, in the current incremental and student enrollment formula pattern, WVU has received a constant share of about 43 percent of the amount allocated for higher education for the past seven years. During this period important measures of output — student credit hours offered, outpatients treated at the University Hospital, courses given —have increased or remained constant. Meanwhile, WVU administrators assert "prices have increased at a rate double that of increases in state allocations."

2. *Student Charges*

That student charges be increased over and above those now used for designated purposes, to provide some funds for current operations. Tuition and fees at WVU have been raised in recent years but still are modest compared to many state universities. Consideration should be given especially to raising out-of-state fees to a level which will not require heavy state subsidies.

3. *Capital Expenditures*

That alternative solutions be sought to fund capital projects which might free up more student fees income for operating purposes.

4. *Private Fund Raising*

That the West Virginia University Foundation accelerate its efforts to obtain additional private funds from alumni, friends, foundations and corporations. Recent progress has been commendable.

5. *Economies in Operations*

That suggestions for modification and curtailment of academic programs mentioned in Section II be vigorously pursued.

SECTION VIII
Planning for Physical Facilities

On its two campuses in Morgantown, West Virginia University operates in 121 buildings on 799 acres with a total valuation of $348 million. A new University Hospital, replacing the present one, is now in the planning stage. Estimated to cost $65 million, it will increase the value of buildings and grounds to well over $400 million.

A physical plant of this size and complexity requires heavy expenditures not only for maintenance and operation but also for modernization and replacement. Strained budgets in recent years have resulted in serious deferred maintenance problems — deteriorating structures and major life safety deficiencies. This situation must be remedied. Meanwhile, in line with its revitalization and renewal determination, WVU must have a sound plan for the upgrading of facilities to meet state-of-the-art program requirements.

The Present Planning Process

As with the operating budget, the capital plan budget is submitted to the Board of Regents in line with Regents' directives.

The Capital Budget Request 1984-85 has been submitted by WVU in three sections:

I Seven projects totaling $12,125,000 to be funded from standard allocations in FY 1984-85.

II Fifteen high priority projects estimated to cost $58,210,000 to be financed by the issuance of bonds against student fees and tuition, as well as a high level of public support.

III Seventeen major projects to be completed within this decade, funding for which must begin to become available within the next five years.

In earlier sections of this report, emphasis was placed on the critical need of salary increases for faculties. But deterioration and inadequacy of the teaching, research and public services facilities were also stressed. To illustrate the problem of maintaining the University plant, an administrative official states that the annual allocation WVU has for repairs and alterations would be the same as if the owner of a $100,000 residence was able to budget only $90 annually for upkeep. This dramatizes the magnitude of the deferred maintenance problem.

Observations

An out-of-state visitor is impressed with the extensive physical plant West Virginia University uses both on its downtown and Evansdale campuses. He observes the magnitude of the operation especially if he rides the Personal Rapid Transit System. But he also notes an unevenness in the use of funds. While there are several fine academic and research buildings, the structures for intercollegiate athletics — the Stadium and the Coliseum — seem to dominate the Evansdale campus. (This may be redressed in part as the new $65 million University Hospital is built.)

If West Virginia University is to become the academic, research and service institution the state needs, its educational facilities will require the alterations, modifications, retrofittings and new construction detailed in the Capital Plan and Budget Requests 1984-85. While the estimated costs of these projects, some planned for as long as ten years ahead, are high the likelihood is that they will become higher because of inflationary factors if postponed too long.

Recommendations

1. That WVU continue and refine its practice of developing a long-range plan of facility modernization.
2. That these plans include a proposal to fund construction costs out of some alternate means rather than using student tuition and fees to retire bonds.
3. That while the 1984-85 request appropriately includes heavy investments in sciences and technology, the longer range program should emphasize providing modern and safe facilities for instructional and research needs in all disciplines.

SECTION IX
Governance of the University

In this section, Governance will be discussed in its dual role, internal and external.

INTERNAL

Boards of Advisors

Unlike most state universities, West Virginia University does not have its own individual board of governors or trustees. Its legal governing authority is the state Board of Regents.

In 1981 the Legislature formally established at all state colleges and universities an institutional Board of Advisors consisting of 11 members. Membership includes an administrative officer appointed by the President, a full-time faculty member elected by the faculty, a full-time student elected by the student body, a member of the institutional classified staff elected by the staff, and seven lay citizens of the state appointed by the Board of Regents.

Although it has no legal authority for the governance of the University, it has three principal advisory functions: 1) It reviews, prior to their submission by the President to the Board of Regents, "all proposals of the institution in the areas of mission, academic programs, budget, capital facilities, and such other matters as requested by the President or the Board of Regents"; 2) It reviews, prior to implementation by the President, all proposals regarding institution-wide personnel policies; 3) It serves as the search and screening committee in the event of a vacancy in the presidency.

The President, Administrative Officers, and the Cabinet

The State Legislature, through the Board of Regents, confers considerable authority upon and holds the President responsible for promoting the welfare of the University in its mission of serving the people of West Virginia.

As Chief Executive Officer, the President discharges his duties and responsibilities with the assistance of administrative officers whom he appoints.

To aid him in dealing with institutional issues that overlap various administrative areas and which require interlocking planning efforts, the President confers regularly with a Cabinet consisting of the Vice Presidents for Academic Affairs and Research, for the Health Services, for Administration and Finance, for Institutional Advancement, and for Student Affairs; the Associate Vice President for Academic Affairs and Research, the President's Executive Officer, the Chief Financial Officer, and the President's Assistant for Planning.

Faculty Governance

As with most state universities, the faculties of the Colleges and Schools of West Virginia University participate in the governance of the University.

The Faculty Constitution points out that the faculty recognizes that "legal authority to guide and regulate the University is vested by the Legislature in the Board of Regents and the President of the University," but indicates that "as a corollary of academic freedom, the faculty has a responsibility for guiding the scholarly pursuits" of the University and of each College and School.

The University faculty is organized through the University Faculty Assembly consisting of all full professors, associate professors, assistant professors, and instructors.

The legislative agency of the Faculty Assembly is the University Faculty Senate consisting of representatives of constituent units — Schools and Colleges — elected by the Faculty Senate. Present membership is 81. The Senate operates with a number of standing and ad hoc committees, including an Executive Committee of nine members elected from and by the Senate.

Nonteaching Personnel

Nonacademic employees are represented in the governance structure through a Staff Council which consists of 12 members elected by their fellow employees in six occupational groups. The Staff Council advises the University President on job conditions, employee-employer relations, etc., as well as offering suggestions and recommendations concerning the general welfare of the University.

School and College Governance

Each School and College has its own individual faculty governance structure which is concerned primarily with the academic program and curriculum and standards of its unit. In each case, the Dean is the presiding officer.

Student Administration

Student administration is organized into three cohesive units: the Executive branch, the Legislative branch known as the Board of Governors (a policy-setting group consisting of 11 voting members), and a Judicial branch.

Observation and Recommendations

Internal Governance

The internal governance arrangement of West Virginia University is in line with that at most state universities. It appears to be functioning well. The general impression is that the President has strengthened the role of the faculty and the Faculty Senate and that he is conducting an open administration and maintaining good communications with faculty and student constituencies. The General Committee applauds his efforts.

Shortly after he assumed office, the President reorganized the administrative structure of his office. His administrative organization is a viable one and appears to be functioning effectively. The General Committee assumes that changes and adaptations will be instituted as the need arises. It commends the President upon the recent appointment of an Associate Vice President for Academic Affairs. It recommends that the position of Associate Vice President for Extension and Public Service be filled as soon as possible and that the additional administrative officers in Enrollment Management and Computer Technology, suggested by the Panels, also be engaged without delay.

EXTERNAL

When West Virginia University was founded as a land-grant college in 1867 it had its own governing board. That pattern of governance

continued, with changes and modifications until 1969. In that year, when the State Legislature approved an act creating the state Board of Regents, the Legislature vested the Regents with the authority for the control and management of the University and all other state institutions of higher education.

The Regents appoint the President of the University (and the Presidents of all the other state colleges) and hold him responsible as the chief executive officer for the welfare of the University and all its constituent colleges.

The Board of Regents consists of nine members appointed by the Governor for overlapping terms of six years.

The Regents have broad statutory authority. Their authority with respect to the budget is spelled out in Section VII above.

With respect to planning and coordination, the Regents are given the authority by statute to "prescribe and allocate among the state colleges and universities specific functions and responsibilities to meet the higher educational needs of the state and to avoid unnecessary duplication." Additionally, it is "empowered to make studies and recommendations relating to all aspects of higher education in the state" and to "review, at least every five years, all academic programs offered at any state college and university."

In explaining how it pursues this responsibility, the Regents issued this explanation in 1979:

"The Board diligently pursues its responsibility for planning in conjunction with the institutions of higher education in the state and views the planning function as a continuous process. Planning activities and planning documents have been concerned with a wide variety of topics, including such matters as academic programs, community colleges, faculty personnel policies, computer services, financial accountability, medical education, physical facilities, student financial aid, engineering education, and student internships. Because planning must be dynamic, not static, plans and policies are constantly reviewed and modified to meet changing needs and conditions."

The most recent planning document issued by the Regents was an 89-page "Proposal Concerning Institutional Missions, Program Alignments, and Medical Education," dated January 10, 1984.

Observations and Recommendations

Among its recommendations on governance, the Benedum Study Project Panel on Governance states:

"West Virginia University must have more governance authority. Though we are not advocating a separate Board for WVU, we do recommend a greater delegation from the Regents to the University Board of Advisors, recognizing its legal limitations. Using the present legislation (Section 18-26-9) the Regents ought to deal with the University Board of Advisors as though it were an independent board, but with its recommendations always subject to ratification by the Regents."

Supplementing that recommendation, the Governance Panel suggests:

a. That the Regents clearly recognize the importance of a graduate and research university for the state.

b. That the Regents adopt differential funding formulae based upon supporting different missions. (Note recommendations in Section VII.)

c. That the Regents continue and refine their statewide higher education planning to develop a mission for the future and a set of plans for implementing that mission.

Part C.

Project Panel Reports

Members of the General Committee and Project Panels

I. General Advisory Committee:

Alvin C. Eurich, President, Academy for Educational Development — Chairman

Clark Kerr, President Emeritus, University of California

Frederick S. Lane, Chairman, Department of Public Administration, Bernard M. Baruch College, CUNY

John Wilson, President, Washington & Lee University

II. Coordinator, Benedum Study Project:

Norman P. Auburn, Senior Vice President, Academy for Educational Development, President Emeritus, The University of Akron

III. Agriculture and Forestry:

James R. Nichols, Dean, Agriculture & Life Sciences, Virginia Polytechnic Institute — Chairman

Lawrence L. Boger, President, Oklahoma State University

Edward Wilson, Director, Cooperative Extension & Cooperative Research, Lincoln University, Missouri

IV. Business and Economics:

Eugene J. Kelley, Dean, Business Administration, Pennsylvania State University — Chairman

Schuyler F. Otteson, Formerly Dean, Business Administration, Indiana University

Vernon K. Zimmerman, Dean, Business Administration, University of Illinois

V. Computers:

Charles R. DeCarlo, formerly President of Sarah Lawrence College and formerly Director of Automation Research at IBM — Chairman

Richard Rose, President, Rochester Institute of Technology

Kurt Moses, Director, Systems Services Division, Academy for Educational Development

VI. Enrollment Management:

Victor Baldridge, Graduate School of Education, UCLA — Chairman

Donald Dickason, Dean of Admissions, Pennsylvania State University

Robert B. Holmes, Assistant Vice President for Academic Affairs, University of Michigan

William H. Sherrill, Dean, Admissions & Registration, Howard University

VII. Extension and Continuing Education:

Eric Walker, formerly President, Pennsylvania State University — Chairman

John Everett, formerly President, New School for Social Research

Gale VandeBerg, Dean, Continuing Education, University of Wisconsin

VIII. Finance:

Sidney Tickton, Academy Vice President, Academy for Educational Development — Chairman

Frederick Ford, Executive Vice President and Treasurer, Purdue University

Samuel Walker, formerly Vice President, City Investment Company, New York

IX. Governance:

Ernest Boyer, President, Carnegie Foundation for the Advancement of Teaching — Chairman

Albert Bowker, Dean, School of Public Affairs, University of Maryland at College Park, formerly Chancellor of CUNY, and the University of California, Berkeley

Martin Meyerson, Chairman of the University of Pennsylvania Foundation, formerly President, University of Pennsylvania

X. Graduate Studies and Research:

Alfred S. Sussman, Dean, Rackham Graduate School, University of Michigan — Chairman

Donald E. Stokes, Dean, Woodrow Wilson School of Public and International Affairs, Princeton University

W. D. Whitehead, Dean, Graduate School of Arts and Sciences, University of Virginia

XI. Human Resources and Education:

John I. Goodlad, Dean, Graduate School of Education, University of California at Los Angeles

XII. Journalism:

Edward W. Barrett, formerly Dean of the School of Journalism, Columbia University

XIII. Land-Grant University Mission:

Peter Magrath, President, University of Minnesota — Chairman

John Toll, President, University of Maryland, formerly President, Stony Brook Campus, SUNY

XIV. Relations with the Public Schools:

John I. Goodlad, Dean, Graduate School of Education, University of California at Los Angeles — Chairman

Rexford Moon, formerly Executive Vice President and Director of School Programs, Academy for Educational Development

XV. Science-Based Technology:

George Bugliarello, President, Polytechnic Institute of New York — Chairman

Joseph M. Pettit, President, Georgia Institute of Technology

Arthur G. Hansen, Chancellor, Texas A&M University

XVI. Undergraduate Studies:

E. K. Fretwell, President, University of North Carolina at Charlotte — Chairman

Arland Christ-Janer, formerly President, Stephens College

Sam Gould, formerly Chancellor of the State University of New York

Panel Report on Agriculture and Forestry

SUMMARY

1. Program priorities should be focused upon the needs of West Virginia rather than continuing the full spectrum of courses offered in larger schools of agriculture.
2. Programs should capitalize on the unique heritage of West Virginia. Examples: rural life and community resources development; small farms and part-time farmers; forest and natural resources on small farms; parks and recreation; home economics and human nutrition; land use and soil reclamation; soil and water conservation; youth and 4-H.
3. College farms should be operated more efficiently but must be regarded as the laboratories to support the academic mission and not as a source of revenue to underwrite academic programs.
4. The College needs a sharper focus which will regain shifts in allocation of resources. Possible centers of excellence: forest product utilization and rural resources economics.
5. Tie county extension staff and programs directly to appropriate subject matter colleges.
6. A prospect exists to strengthen the biological sciences within the University through proper utilization of Agricultural and Forestry resources.
7. Agricultural Experiment Station activity can be improved if state matches Federal Hatch Act grant at appropriate level.
8. The use of state-of-the-art technology in telecommunications would improve and expand the delivery of Cooperative Extension Programs.

COMPLETE REPORT

Preface

The Panel appreciated the opportunity to visit West Virginia University, review its programs, and meet with faculty, students, and administrators. Hopefully, its views will be of assistance in further

improving the College of Agriculture and Forestry, the University, and the state's agricultural and forest industry for all of the citizens of West Virginia.

The Panel makes no pretense of being instant experts and acknowledges the limits of its inquiry. The Panel members did, however, read and carefully review all materials provided to them, and made many observations and heard from a wide spectrum of people interested in the welfare of the University and the College of Agriculture and Forestry. Its perceptions and observations are included herein, along with excerpts of comments from those visited.

Introduction

The importance of agriculture and forestry to West Virginia is much greater than the gross sales revenues from farm and forest raw materials. There are many associated activities within the infrastructure which are necessary to process, market, service, and manufacture farm and forest products through the market chain from producer to consumer. All of these contribute jobs and dollars to West Virginia. Likewise, the land and forest resources contribute significantly to the tourist attractions of the state and to its fish and wildlife, natural resources, and recreational opportunities. Also, a majority of the state's population resides in rural areas and derives some value from the land.

Thus, the total economic activity and potential of West Virginia is augmented beyond gross sales of agricultural and forest products, and the importance of this basic industry should not be undervalued by measuring farm gate sales alone. Furthermore, the potential for increasing the worth of agriculture and forestry could, no doubt, be enhanced through further processing in West Virginia rather than adding value outside the state. Attracting agricultural, forestry, and tertiary firms to West Virginia for this purpose will, however, require state policies and tax incentives favorable to such economic endeavors.

Likewise, the College of Agriculture and Forestry is of far greater importance to West Virginia University and to the state than its present proportion of the student population. The land-

grant mission of the University can be more fully achieved by further capitalizing upon the latent potential of this College. West Virginia is the second most rural state in the country and, as such, can focus upon unique opportunities related to rural life. In many ways, West Virginia can make rural and community development, the small, part-time farmer, the rural family, and the beauty and abundance of its natural resources—fish and wildlife, forests, and parks and recreation—the cornerstone of its socioeconomic future.

The College of Agriculture and Forestry and the Cooperative Extension Service offer the University a rare opportunity to enhance its position as the flagship university in West Virginia by taking the University to the people. Armed with its land-grant charter and with staff in every county, no other institution of higher learning, nor any state agency, is in a better position to help improve the economic ability of the state and gain needed state government support and allegiance of the people than West Virginia University.

However, this Panel did not find widespread recognition of this potential, nor confidence that it could be achieved, given the political history and financial condition of the state. Perhaps the College faculty and administration simply do not believe that necessary program responsibility, authority, and resources will be identified for that potential to be fully realized. The Panel members' perception is that the potential impact of the College and Extension is being underestimated.

It seems to the Panel that the four program components of the Cooperative Extension Service are tailor-made for West Virginia and provide a relevance to which the majority of the citizens can easily relate, i.e., agriculture and natural resources, home economics, youth and 4-H, and community resource development.

But responsibility for extension program content and delivery must be integrated into the academic departments and colleges of the University. Extension specialists must be housed (administratively, programmatically, and physically) within relevant subject departments (or divisions) within Colleges under the administrative authority of the same Dean who has program responsibility and budget authority for the College's instructional and research missions.

Perceptions, Observations, and Opinions

1. Faculty and students need a clearer definition and understanding of what the land-grant role of West Virginia University means for the College of Agriculture and Forestry, the Cooperative Extension Service, the Agricultural Experiment Station, the University, and the state. That statement of purpose needs the official endorsement of the Board of Regents, the President, and the Dean, and should be clearly articulated to the public and the legislature, as well as to students, alumni, faculty, and staff of West Virginia University.
2. The College needs a sharper focus within the context of the land-grant mission of West Virginia University. The evaluation of such a focus must come from within the College. It needs to be augmented, however, by a clear statement from the central administration to the dean and faculty of the College about that role and their expectations. Opportunities do exist for the development of centers of excellence in the College which, most likely, will require shifts in the allocation of some existing resources. A cursory look suggested, for example, that forest products utilization and rural resource economics offer such a possibility.
3. The selection and appointment of a new Dean provides an excellent opportunity to begin again with a complete understanding of program parameters and responsibilities and mutual accord. The new Dean must receive a clear charge from the President, central administration, and the Board, and must "sing from the same sheet of music" with them. Likewise, the Dean must be provided the flexibility and authority needed to properly meet the expectations of the institution and the many different cliental groups served by the College.
4. Upon the completion of the Benedum review, something must be done which is clearly visible to faculty, students, and the public as a direct result of this endeavor. "We've been studied to death and nothing happens" is the prevalent opinion of faculty and administration in the College. The widespread attitude expressed was that the purpose and specific objectives of the many external and internal reviews had not been properly communicated and had not resulted in substantive changes

or action. The faculty and administration expressed a rather cynical attitude about the whole process, and expressed the hope that such reviews should now cease. Further, they voiced the view that more help and less evaluation would be welcome and that many notions about needed changes were preconceived and ill-founded. In short, they felt that previous internal reviews had been counterproductive and they were not enthusiastic or optimistic about this review either.

5. The administrative structure of the College is probably adequate except for Cooperative Extension. The responsibility for personnel, program planning, implementation, evaluation, and resource allocation must be placed in the College under the Dean. A University Vice President or Associate Vice President may have overall University administrative authority for extension and continuing education with appropriate college deans reporting to that office. However, the management of these functions must reside with the respective deans with line responsibility and authority.
6. The county extension staff and programs must be tied directly to the appropriate subject matter colleges. Extension's role is to assemble, interpret, and transfer relevant technology and information to cliental groups. To avoid the "hollow tube" syndrome, colleges must provide information derived through academic programs, otherwise extension is cut off from its source of knowledge and has little to extend.
7. The College is now suffering from the separation, two decades ago, of the Cooperative Extension Service from the mainstream of academia. Two critical steps to correct that situation would be, 1) joint faculty appointments, and 2) the physical housing of all faculty together. This would permit Extension faculty to bring another perspective into the classroom and research labs, and encourage research and teaching faculty to contribute to the extension mission as well. For relatively small programs, this is especially vital, and would result in further stretching limited resources.
8. The physical separation of the College from some of its faculty (and Cooperative Extension) who are situated in Brooks Hall on "the downtown campus" causes minor communication prob-

lems and precludes effective cooperation and joint usage of equipment. Overall, the College obviously feels a psychological separation as well with the "downtown campus." The Panel's view is that serious consideration should be given to bringing more of the College's units into closer proximity. Notwithstanding the problems associated with such moves, the reasons to do it override temporary inconveniences and, thus, warrant prompt action.

9. The role of the College's farms must be to support the academic mission of the College and should not become commercial operations. They should not be viewed as a source of revenue to underwrite academic programs. There is an implicit cost associated with all academic programs. Livestock, farms, forests, machinery, and equipment are essential ingredients for any college of agriculture. The operations of these units must be in support of the teaching, research, and extension programs, and not conducted to generate funds. Otherwise, income could easily become the dominant priority over academic needs.
10. Nevertheless, more efficient management of the College's farms can be achieved, internally, by assigning the responsibility to a competent individual who has the necessary authority to manage the operations. In this regard, the Panel heard several students express dismay about problems associated with the management and operation of these farms.
11. Inequity for faculty salaries in the College of Agriculture and Forestry compared to the rest of the University was strongly voiced. This could be an academic year/calendar year problem which this Panel could not pursue. The perception of the faculty and the administration in the College, however, is that their salaries are unjustifiably lower than the rest of the University. This is another example of why they feel "put upon" and viewed as "second-class university citizens."
12. The relationship between the College and the state Department of Agriculture was raised as another concern. The political position of the Commissioner places him in a position to capture resources from the state not now available to the College. Examples were cited of how he was filling positions with

extension responsibilities and, in essence, duplicating Cooperative Extension Service's role because the state system permitted him to secure and fill positions not available to the University. The function of state departments of agriculture is traditionally in regulation, inspection, and promotion. For them to assume responsibilities in extension and research is in direct competition with the University, and the state should not permit such duplication of efforts.

13. Added flexibility in fiscal management is needed for the College and the University, as a whole. During times of tighter budgets, more flexibility is needed to manage them. The purchasing procedures seemed unduly cumbersome to the Panel and were causing unreasonable delays in both the purchase and repair of equipment. The dropping of maintenance contracts for scientific equipment because of budget shortages seemed to further compound the problem by increasing down time and accelerating cost of repairs and maintenance. Further, the lack of a College or University central pool or stores for common usage supplies, materials, and equipment seems inefficient. The concept of shared equipment must be nurtured among all faculty within the College.
14. Agriculture and forestry provide the opportunity to strengthen the biological sciences within the University, if handled correctly. In molecular biology, biotechnology, regeneration of plants from single cells, embryo transfer, microculture, air pollution, photosynthesis, nitrogen fixation, natural resources, fish and wildlife habitat, and other areas of current research, the synergistic effects can strengthen both. The Agricultural Experiment Station may fund research outside the College to achieve more interdisciplinary attention to important agricultural and forestry problems of West Virginia.
15. The Panel did not have ample time and information to properly assess where program emphasis should be placed and resource priorities established except in general terms. Fundamental to such an inquiry, however, is knowledge of West Virginia itself. From the Panel's perspective, the rural character of the state and the characteristics of its agriculture and forestry dictate that programs be focused upon specific prob-

lems and opportunities for West Virginia rather than attempting to continue the full spectrum of programs found in larger and better funded land-grant colleges of agriculture. Thus, most of the programs should not be generic to all of agriculture and forestry, but site and state specific to West Virginia.

16. Programs in agriculture and forestry should capitalize upon the unique heritage and character of West Virginia. The Panel identified several characteristics which seemed to offer unusual and appropriate opportunities for program focus — rural life and community resource development; small farms and part-time farmers; forest and natural resources associated with small and part-time farmers; fish and wildlife, parks and recreation, and forest products; home economics and human nutrition; land use and mine soil reclamation, soil and water conservation, and environmental quality; and youth and 4-H. There are others, but these alone would constitute a full agenda for the College for decades to come.
17. We are aware of the many suggestions to place greater priority upon forestry and agree that they are probably valid. We do think the programs currently being pursued in forestry are properly targeted and appear to be making good progress. No doubt, there are several other programs within the College which are also strong and properly focused. Those specifically pointed out to the Panel were landscape architecture, wildlife, animal sciences, and forest resources with good graduate and research efforts in reproductive physiology, wood science and technology, wildlife, and tree fruits. The Panel did not, however, have an opportunity to evaluate these and other programs in the College.
18. Clearly, matching a federal dollar with 77 cents from the state in the Agricultural Experiment Station is below the federal expectations of the Hatch Act and makes it most difficult for West Virginia University to conduct its essential agricultural research programs. The Panel also understands that almost 90 percent of the total state and federal appropriations is expended for salaries and wages. This situation eliminates flexibility and makes program priority shifts virtually impossible in the short run. The situation is further exacerbated by the

necessity of the Experiment Station to use some of its resources to support the teaching programs of the College. While these are complementary missions, there must be reasonable equity of resource allocations to conduct both research and teaching. The state and University simply cannot view federal and state appropriations to the Experiment Station as a revenue source for the teaching programs of the College.

19. The composition of the student body with respect to in-state or out-of-state domestic or foreign, warrants attention. There appears to be a disproportionately high number of out-of-state and foreign students which was explained, in part, by the relatively lower cost for higher education at West Virginia University. If true, it may come at too high a cost for West Virginia taxpayers.
20. Some faculty also expressed serious reservations about the high teaching load in the College for service courses to others in the University, i.e., genetics, biochemistry, and plant pathology. They felt, in many cases, the College was forced to assume—without compensation—such courses at the expense of College offerings and quality of College programs. The Panel had no opportunity to assess this point.
21. Delivery of Cooperative Extension Service programs and continuing education courses throughout the state could be greatly expanded and facilitated via state of the art technology in telecommunications. This would have the result of truly taking the land-grant university to the people and should greatly aid the University's visibility and support. Programs such as rural health and medical problems, home economics education, community resource development, wildlife, and conservation, in addition to traditional Cooperative Extension Service programs, appear to be likely candidates for this kind of university outreach.

Panel Members:

James R. Nichols
E. M. Wilson
L. L. Boger

Panel Report on Business and Economics

SUMMARY

In reviewing the operation of the College of Business and Economics, the Panel listed areas of strengths and weaknesses.

As to strengths, it notes that the College:

- Is the only business school in the state accredited by the American Assembly of Collegiate Schools of Business
- Has some very good faculty members
- Attracts good students from the state and region
- Its new Dean is assuming his leadership role capably.

As to weaknesses, it emphasizes that the College:

- Is underfunded relative to the number of students it serves
- Has too few full-time, tenure-track faculty and too many part-timers
- Suffers from the absence of a strong sense of direction
- Its building is inadequate and is one of the causes of low morale
- Its summer programs are inadequate
- Faculty salary compression has had a serious, negative effect on morale
- Has not taken seriously enough its potential for providing service to the people and business interests of the state.

Recommendations

The University and the College of Business and Economics are now in a watershed year. It is critical for the College to develop, under the Dean's leadership, a clear sense of mission and the organization and strategic plan required to achieve its purposes.

Attention should be centered on three areas: (1) Service/Continuing Education, (2) Research and Graduate Studies, and (3) Faculty Development.

1. *Service/Continuing Education*
   a) Dean's office should have a staff member responsible for service/continuing education

b) Continuing education offers the most flexible area of faculty support
c) Establish a program in Executive Education
d) Seek to become increasingly involved in the economic development of the state.

2. *Graduate Studies and Research*
   a) Develop a sound research strategy in order to serve the state and its people
   b) Identify and engage new faculty members with research abilities
   c) Review and revise the operation of the Bureau of Business Research.
3. *Complete the "New" Business Building*
   The panel views the delay in constructing the long-promised new building as the most important psychological factor bearing on the College. It recommends:
   a) That a long-term solution of the building situation be explained to the faculty and students
   b) If deferral is required, alternate steps to ease space shortages and other inadequacies should be made now.
4. *Adequacy of Faculty Salaries*
   Because of market conditions and the recent loss of top faculty members, the salary situation is especially critical in Business and Economics. Current salaries are significantly under national averages. The panel recommends:
   a) Consider a deliberate reduction of total personnel and reassign vacant line salary money to those faculty members the College wishes to retain
   b) Reasons for advocating this internal reallocation policy are that the cost of recruiting new faculty is great, the necessity of paying them market rates, and the chances that they might not work out satisfactorily as teachers/researchers.
5. *Faculty Travel Support*
   While not major in financial terms, the lack of significant travel support does impact on faculty morale.
   a) Allocate some present budgetary funds, or seek special areas of support, to increase travel opportunities.

6. *Student Morale*
   Graduate and undergraduate students interviewed perceive that the College facilities are inadequate, the best professors are leaving, and placement facilities are only fair. They are also concerned about class coverage.
   While the College still has many good students, they need reassurance about the College's future.
7. *Alumni Relations and Fund Raising*
   The College should:
   a) Institute a systematic and effective system of cultivating alumni and friends to undertake projects of benefit to students and faculty
   b) Work closely with the West Virginia University Foundation to cultivate individuals and corporations to provide funds for applied research, for student activities and scholarships, and for chairs for distinguished professorships.
8. *The Challenge of Maintaining Accreditation*
   There are only 200 schools of business now accredited by the AACSB. To maintain its present accreditation, the administration is urged to provide the Dean with the means of correcting any deficiencies which may be cited by accreditation teams.
9. *Tenure and Promotion Factors*
   In order to improve the quality of the faculty with an appropriate emphasis on research, the College should frame tenure and promotion standards calling for requisite research as well as able teaching performance.
10. *College Organization*
    While there exists a desire of some groups to separate from the College, the panel urges no additional organization changes until the overall plan the Dean is articulating with the faculty is approved.
11. *Long-Term Planning Goals*
    Although the College is confronted with major problems in staffing at the baccalaurate and master's levels, the panel believes that in the long run, but not now, the College should develop a doctoral program in business. It should continue its successful doctoral program in economics, which is well accepted.

COMPLETE REPORT

Scope

Panel members were invited to assist in the overall University evaluation currently in process. The three deans were specifically requested to review materials and oral presentations of West Virginia University officials and the Dean of the College of Business and Economics. In addition, the Panel members had interviews with faculty and students in the College of Business and Economics during a personal visit to the Morgantown campus.

The Panel members are very appreciative of the special assistance given throughout the evaluation process by E. Gordon Gee, President of West Virginia University, Dean Arthur Kraft, and members of the President's staff. Particular mention should be given to the facilitation of our work by Norman P. Auburn, Senior Vice President of the Academy for Educational Development.

The evaluation team met with representatives of the University and the Benedum Panel on Business and Economics on August 8-9, 1983, in New York City, and on the campus at West Virginia University, October 31-November 2, 1983.

General Conditions Relating to the College of Business and Economics of West Virginia University

The evaluation team had extended discussions, both in New York and Morgantown, with President Gee, Dean Kraft and other representatives of the University and College concerning the present status and goals of the College of Business and Economics. The team had full cooperation at all meetings. There were candid exchanges of views of all parties.

West Virginia University

West Virginia University comprises approximately 21,000 students and 8,000 faculty and staff, is the comprehensive, doctoral-degree granting, land-grant institution in the State of West Virginia. The University is governed by the West Virginia Board of Regents, the governing board for all state institutions of higher education. Along with West Virginia University, this system includes one other uni-

versity, eight public four-year colleges, and three free-standing community colleges. Because of the severe financial difficulties of the State of West Virginia, funding for state higher education has suffered in recent years. State-mandated budget reductions have been frequent, with a reversion of approximately 9.5 percent taking place during the 1982-83 fiscal year.

In spite of the recent history of inadequate funding, West Virginia University has managed to develop relatively strong academic programs in many areas. The institution takes pride in its good undergraduate programs, which have produced 19 Rhodes Scholars and which enroll a large number of National Merit Scholars.

At the same time, however, financial difficulties have taken their toll. Having now gone two years without a salary increase, faculty and staff members show signs of great discouragement, bordering on demoralization in the College of Business and Economics. Faculty resignations have increased at an alarming rate, and alternative staff employment opportunities are expected to have a similar effect as the economy improves.

College of Business and Economics

Dean Kraft and his colleagues gave the Panel an overview of the College of Business and Economics at West Virginia University. Various planning documents and internal documents are consistent about the situation of the College. During the October 31-November 2, 1983 visit to West Virginia University the following problems were confirmed:

- The College is currently underfunded relative to the number of student credit hours it generates and the number of students it graduates.
- The College has too few full-time, tenure-track faculty, and too many part-time faculty members hired on a regular basis.
- The College suffers from the absence of a strong sense of direction. This problem is typified by multiple program options available without adequate faculty support.
- The building in which the College of Business and Economics is housed is inadequate, but the long-anticipated new facility is still only in the planning stages.
- Chairpersons in the College have had very limited decision-making authority in the past.

- The University's financial limitations with regard to the summer school program have constrained the College's ability to meet high student demand in certain courses and programs.
- Faculty salary compression has had a serious, negative effect on faculty morale.
- The College has not taken seriously enough its potential for providing service to the people and business interests of the State of West Virginia.

The College also has areas of strength and opportunity:

- The role of the University as the land-grant institution in the state provides an important rationale for enhancing the College of Business and Economics' outreach function and basic academic programs.
- This College contains the only accredited business school in the State of West Virginia.
- Despite the frustrations they must endure, some very good faculty members remain in the College, providing the necessary basis for changes which must take place.
- The College attracts good students from the state and region, and has recently been supported by central administration in raising admissions standards.
- Dean Kraft has given departmental chairpersons more decision-making authority than they had previously.

The graduate programs are of mixed quality. The MBA degree program, in particular, varies in quality. The students enrolled in the program are generally good, but the off-campus delivery system relies on electronic media which require skills which classroom instructors do not necessarily have. In addition, the joint MBA/JD degree program has been hurt by the lack of summer session stability. The only doctoral degree offered in the College is in economics. Students in this program are quite good, but the low level of financial support for graduate students hurts the College's ability to attract the very best students.

In addition, a strong doctoral program requires a genuine faculty commitment to research — a commitment which is not always apparent in the College.

The Panel expressed its concern that the views presented by University officials and faculty members were primarily negative in tone. The Panel believes that it is necessary — even in difficult times — to look for the good or the potential for good in this College and

in the University. As the University considers areas which have the potential for becoming centers of excellence, it must develop a vision for what the institution can become, and then develop strategies for change. This Panel sees its role as one of assisting in the design of strategic plans for the College of Business and Economics which fit into the larger picture of West Virginia University.

Recommendations of the Evaluation Team

The evaluation team submits the following recommendations based on its assessment of the general condition of the College and our assessment of its current situations and opportunities.

The University and the College of Business and Economics are now in a watershed year. It is critical for the College to develop, under Dean Kraft's leadership, a clear sense of mission, and the organization and strategic plan required to achieve its purposes. Many elements required for the enhancement of the College are already in place: ground work has been laid for the development of centers of excellence; the land-grant mission of West Virginia University is being reaffirmed and reconsidered; the redefinition of the University allows its component schools and colleges to think about the plan for change. Given this institutional climate, the Panel suggests that the College of Business and Economics give careful attention to three areas: (1) Service/Continuing Education, where an executive education program might be considered; (2) Research and Graduate Studies, where new attitudes and a research strategy are required; and (3) Faculty Development, along with the corresponding issue of the best organization of the College, given its new vision, expectations and leadership.

The College can focus on two specific areas of opportunity which the Panel has identified as holding potential for enhancing the College and the University; first, service and continuing education, and second, research and graduate programs.

Service/Continuing Education

The evaluation team found that the present continuing education system involving the College of Business and Economics is somewhat unusual and not particularly conducive to a coordinated over-

all College effort in this area. The evaluation team views continuing education in business as one of the most important growth areas of any college of business. It also offers the most flexible area of additional faculty support and college prestige of perhaps any.

We urge that other programs of continuing education, perhaps such as at Penn State University, be examined and an effort be made to remove the present entrepreneurial status of present continuing education courses and recognizing that the Dean's Office should have a staff member responsible for this area and should review opportunities and make commitments in the area. We view a sound continuing education program as an essential part of a quality college of commerce and business.

It was pointed out that schools of business are often tempted to lower the level of their offerings in order to meet the needs of the business public, thus spending energy on things that do not really belong in a University.

Executive education programs are conducted through the university but reach a national audience and draw instructors nationally, as well. The Panel suggested that West Virginia University appears to have opportunities to establish a similar program, and that a task force might be established to give consideration to the issue.

In addition, the potential for the College of Business and Economics to become increasingly involved in the economic development of the State of West Virginia was discussed. While efforts to make more visible the role of the University in this regard are already underway, they have involved, thus far, units other than Business and Economics. The natural link of this College to state business and industry must be strengthened.

Graduate Studies and Research

The potential significance to the College of Business and Economics of research entrepreneurs was recognized. Plans need to be generated to identify or to hire such faculty members, and support for such activity must be enhanced. A research strategy needs to be developed for the College and for its programs.

The Bureau of Business Research now performs primarily a service role for the College. As now constituted, it is unlikely to

produce high level academic research. Research must be seen in the College not simply as a function of the Bureau, but as a part of the basic faculty responsibility. The College must consider its reward systems in light of such an expectation. With a new understanding of the place of research in the College, the role of the Bureau of Business Research might be redefined as that of a facilitator of research. Such a Bureau might assist faculty members in seeking research grant opportunities and in preparing research reports, and might serve as a focal point for the development of a research strategy for the College.

Completion of the "New" Business Building

Probably no single item dominated our discussions more with faculty members of the College of Business and Economics than the topic of the "new" building for the College. Apparently the University had promised the prior Dean many years ago that the College of Business and Economics would have a new building soon. This had been promised as an indication of the commitment of the University and the State of West Virginia to the College and its objectives. Despite very good reasons why this building has not yet materialized (including a rather peculiar capital funding process and priority determination by the State of West Virginia), the realities of the lack of a promised new building on the morale of the faculty of the College of Business and Economics at West Virginia University are real and important.

The faculty of the College of Business and Economics mentioned that both students and faculty members have expected the new building. The promise of the new building perhaps reduced the value and acceptance of the present building even more than in reality it should have. The ability to construct the building still seems somewhat in the future. The evaluation team urges that a long-term solution to the matter of the building be announced to the faculty. If a deferral is needed, that should be announced and alternative steps to ease space shortages and other inadequacies should be made.

The Panel viewed this condition as the most important psychological factor bearing on the College of Business and Economics.

Adequacy of College of Business and Economics Salaries

In a more real sense than the matter of the failure to construct a new building, the College of Business and Economics has a genuine problem, in the opinion of the team, because of the low level of average faculty salaries currently being paid by that College in comparison with other schools of business. The problem is acute, we know, because West Virginia University itself has had a very difficult salary situation in recent years, but that does not mitigate against the reality of the teaching faculty of the College of Business and Economics at West Virginia University being significantly under existing national averages.

This is a major problem area for the College. Immediate steps should be taken to correct this salary situation with the recognition of appropriate priorities for a College of Business and Economics on the West Virginia campus. The team urges consideration of a deliberate reduction in total personnel and reassigning vacant line salary money to existing faculty to those faculty members which the College and the University wish to retain. The costs of recruiting new faculty are great, the probability of making ideal appointments less than total, and, in any event, new hires will need to be the market price, a significantly higher salary level than currently exists. This type of internal reallocation decision to retain those faculty to which the University wishes to indicate a special commitment has been used in a number of universities.

The team realizes that the real impact of any faculty salary decisions is major. A positive policy, even if long-term in realization, would be beneficial in our opinion. The committee was told repeatedly by students and faculty colleagues that a number of the best faculty members of the College had left last year and that the exodus would continue unless significant salary relief was offered. We view this as a very critical area of support.

Faculty Travel Support

Although not major in financial terms or in total impact on faculty morale and the quality of the University in the long run, the lack of significant travel support for the current faculty members of the College of Business and Economics does create a genuine problem.

The total available funds for participation in professional meetings for the faculty are extremely small and could not be expected to be adequate to maintain the professional competence and support and morale of the present faculty. Consideration should be given to seeking outside funds for this special area of support or of reallocating current existing budget support of the College, thus giving this a higher priority than currently exists.

Student Morale and Organizations

The team had the opportunity to visit with representatives of the graduate and undergraduate student body. Probably no part of our assignment aroused more personal sympathy and concern than this one. The College of Business and Economics does have some very faithful and committed students, but the students perceive that the College is losing quality and that there is not much hope for the future. In fact, upon questioning as to whether they would recommend their brothers or sisters to attend West Virginia University some said they would not do so. The reasons for this are that the students perceive that the College facilities are inadequate, the best faculty are leaving, and that placement facilities and other activities are not of quality comparable with other institutions. The students also are concerned with some of the class coverage and with the competence of professors in new areas.

Alumni Relations and Fund Raising

The team believes that there is a loyal cadre of graduates and friends of the College of Business and Economics, but that these must be tapped and requested to provide appropriate external support to the College to augment the overall goals for excellence of the College of Business and Economics. There does not seem to be a very large and flourishing College alumni association at present. There also seems to be some fragmentation of duty and responsibilities in the fund-raising area between the College and the University. We urge that a systematic and effective system of relationships with the alumni of the College be instituted, that the alumni association be urged to undertake projects of short term and specific impact and benefit to the students and faculty. The

College should also work closely with the University Foundation to develop a list of individuals and corporations who would care to sponsor certain projects of importance to the faculty and students for the College. The latter could provide money for applied research, for student activities, for chairs for distinguished professors and for scholarships for students.

The Challenge of Maintaining Accreditation

One of the positive aspects of our review is the recognition of the potential of the College of Business and Economics and West Virginia University. We feel there is evidence of long-term commitment to the College of Business and Economics as one of the peaks of excellence of the University which would be congruent with the needs of West Virginia. One of the current advantages is that the University has an accredited business program. There are only approximately 200 of these in the country. This, we believe is the only accredited business program in the State of West Virginia and it is a precious advantage to retain.

As much of the preceding report has indicated, there are some very serious questions concerning the immediate future of the College of Business and Economics. The Panel team is concerned that the continuing accreditation of the College of Business and Economics is threatened. The areas of concern include the adequacy of staff in conformance with the accreditation requirements, as well as some other important parts of the total accreditation review.

We strongly urge that a commitment be made to the Dean of the College of Business and Economics to maintain accreditation. Based on prior experiences at other universities, the accreditation review, if not totally positive, probably would allow a short period on an indefinite status and the deficiencies, if any, could be corrected. We strongly urge that the type of special one-time support required to maintain accreditation be provided.

Tenure and Promotion Factors

The evaluation team was aware of a dichotomy which exists in most schools of business between the individuals who feel they have

excellent teaching records but somewhat less impressive research records and vice versa. Clearly, the intention of West Virginia University and the College of Business and Economics to have a quality faculty with an appropriate emphasis on research is to be expected. The evaluation team sensed that the standards for tenure and promotion had not previously emphasized research to the degree presently desired. There will be a transition period of some discomfort.

The Dean mentioned that 25 faculty positions will be available for replacement appointments during the next five years and there may be additional opportunities through turnover, both desired and not desired. The team urges that the tenure and promotion standards be framed on a long run basis and commitments be made under that despite possible short-term problems in staffing. A consistent long-term policy for requisite research, as well as teaching performance, will clarify the situation and, we believe, will be standards accepted by the type of faculty that the University and the College wish to encourage.

College of Business and Economics Organization

The present relative low morale within the College of Business and Economics does extenuate the desire for groups to separate in the belief that in a new and separate organization things will be better. We did sense some feeling for a new organization in the industrial relations area. The evaluation team's perception is that this is a very small area and that the organizational chart might be further fragmented by this action. The evaluation team urges no additional organization changes until the overall plan that the Dean is articulating with the faculty is reviewed and approved and then organizational changes be made within those recommendations.

Long-Term Planning Goals

The College currently offers a doctoral program in economics that has been well accepted. The College long-term planning to attract and retain faculty of the quality desired will include, we believe, plans for a doctoral program in business in the future. Although desirable, this type of expansion of academic effort into a doctoral

area should be planned carefully. There are still major problems in staffing at the baccalaureate and master's level that would be complicated by an early venture into the doctoral area. The evaluation team believes, however, in the long run that the development of a doctoral program in business at West Virginia would be consistent with the needs of society and with the goals of West Virginia University.

Panel Members:

Eugene J. Kelley
Schuyler F. Otteson
Vernon K. Zimmerman

Panel Report on Computers

SUMMARY

Carlyle's definition of a true university as a collection of books, being engaged in the creation, acquisition, and transmission of knowledge, is now outmoded. Today's university must reach outward to provide services for society's needs. Electronic information processing will play a vital role in enhancing, strengthening, and changing the university's multiple missions.

The current approach to the use of electronic technology in West Virginia University is at odds with those necessary policies needed to establish the University as the flagship of the state system.

West Virginia University is well behind its sister institutions in the use of technology. To catch up, it must place the authority, responsibility, and control of the technology directly in the hands of accountable University leadership.

Fortunately, WVU has dedicated, competent, and loyal people familiar with the technology and eager to accept its challenges.

The West Virginia Network system represents a concept which is becoming rapidly outmoded in electronic information processing.

WV Net

The panel lists the major inadequacies of WV Net but concludes that nevertheless WVU will have to work within the context of WV Net for several years. Ideally, WVU should be given direct management responsibility for the operation of WV Net and should provide necessary computational service to other higher educational units in the state.

General Recommendations

1. The role of WV Net should be reassessed in light of technological changes in the computer industry and the specific needs of WVU.

2. The University, working with the Board of Regents and the management of WV Net, should jointly develop a plan to strengthen the University through developing its own computer capability while at the same time making the network a more important service for the other institutions in the system.

3. Upon the basis of such a plan, reallocate resources — personnel, equipment, and systems — to best realize the objectives established.

4. Within the University part of the plan, recognize that administrative, research, and instruction are different functions which should each have separate plans to implement.

5. There should be a plan for an integrated administrative system *within* the University for the application of computing services to all functions, i.e., Admissions, Registration, Accounting, Development, etc.

6. The research function of the University should be organized to take advantage of the large computers now in WV Net.

7. For the instructional uses of computing, individual schools and colleges should be encouraged to develop their own plans and implement.

8. As a start, three instructional areas or schools should be selected for immediate support. Several policy guidelines should be established. Among these:

a) Procurement should be limited to the major suppliers to ensure quality and support of product.

b) Insistence upon *standard* products and program systems within a particular area.

c) Coordination of the individual school or area's plans with the University-wide plan.

9. Within each of the three selected areas a design should be established to have free-standing computers which are also capable of being linked in a hard-wired local network.

10. Plan to prove, within a reasonable time, the ability to interconnect the three local networks to constitute a shared subsystem.

11. Each local area network should have the responsibility to teach all faculty and students in its academic unit the essentials of computer use — Basic and possibly Fortran programming, as well as minimum word-processing and graphic skills.

12. As time goes on, a benign metastasis should take place with other departments developing their own computer competence and networks.

13. Within the University, encourage the establishment of technical liaison groups to provide communication and technical exchange among the various computer enterprises.

14. Provide support for the small group of faculty interested in instructional technology.

15. Develop an inventory of personnel resources in the University — those already in the computer usage set and those who are interested.

16. With respect to organization, a strong staff executive — probably reporting to the President — should be given the responsibility for preparing and seeing that plans are implemented.

17. As an interim measure, the University Computing Service should report to this staff officer.

18. At some point in the progress of implementing the recommendations presented herein, the Committee and Boards currently set up to monitor computing should be disbanded.

19. Establish a Computation and Data Processing Advisory Group to be drawn from business, government, and professional society leadership.

20. Under the staff executive, mentioned in Recommendation 16, a liaison program with the public school system should be established to promote a proper match between the University's mission and that of the school system's with respect to the teaching of computation and data processing.

Conclusion

The University of West Virginia is a great institution. One need only to look at its record or its current posture to reach this conclusion. This report is intended to carry with it a sense of urgency for time is running out. The intersection of advancing technology and declining institutional momentum is rapidly approaching. Whether it be those or other actions, action is demanded NOW.

The corrosive nature of the present deterioration in this area makes other areas of the University vulnerable.

COMPLETE REPORT

Background

The University might rightly be called a community of scholars, but its manifest tissue is the assemblage of wisdom, knowledge and information located in its libraries, schools and colleges. It has gone far beyond Carlyle's definition of the true university as a collection of books, being engaged in the creation, acquisition and transmission of knowledge of all kinds. In addition, for good or bad, it reaches outward to provide its services to society's needs.

Electronic information processing will play a vital role in enhancing, strengthening and even changing the university's multiple roles. Constituting as it does a technology for creative implementation and extension of the university's functions, it will become part of the neural system of the body academic. Being thus its purposes, control and direction cannot be left to specialists or those not directly centered in the leadership of the institution. As time goes on this technology will parallel, and become an organic part of, every aspect of the University's organization.

The current approach to the use of this technology in West Virginia University is at odds with those necessary policies needed to establish the University as a flagship of the state system and as a member of the top group of universities in the nation. As a matter of fact the University is well behind its sister institutions in the country and unless changes are made this distance will lengthen to the point of almost irretrievable recovery. These changes must include the authority, responsibility and control of this technology directly in the hands of accountable University leadership. Anything less will hobble the efforts of all and constrain the University in its drive toward excellence.

From our meetings with various groups we judge the University to be most fortunate in having dedicated, competent and loyal people, familiar with the technology and eager to accept its challenges. They are a resource which, given the proper and imaginative leadership, can be effectively utilized to move forward West Virginia University to its proper position.

In this pursuit there is reason to take heart. Not only are good people available but, due to history, there are no strong entrenched

computer fiefdoms internal to the University. Thus there lies a clear field ahead for planning and implementing a cohesive program for strengthening all aspects of the University with regard to this most important technology.

West Virginia Net

The system represents a concept which is becoming rapidly outmoded as the cost per function curves in the electronic information processing industry fall significantly. It is our judgment that telecommunications/computing systems will be economically viable only in those instances where a group of like functions are performed throughout the system and where it is necessary to maintain central inventory and data bases, i.e., airline reservations, banking, multilocation companies, etc. In these instances the systems are *dedicated* to the administrative/operational purposes of the organization and all programming, maintenance and documentation are specialized to these ends. This is *not* applicable to the computing needs of West Virginia University.

Such systems as West Virginia Net, i.e., time-sharing or multiple-task processing, came into being at a time when large computing capacity was expensive and the heavy load of problems was input/output bound. The theory was that central processing capability could be sliced up, under system control, to service a large number of users and awaiting problems. As time went on the system operating programs (the internal manager of the system) became increasingly complex and elegant. It developed that more and more raw computing power at the system's center was being expended upon keeping track of things while at the same time trying to make the system appear easier to use by the ultimate user. Indeed studies are beginning to show that such systems, designed to solve the problem of input/output boundedness are now becoming computer-bound. These problems are compounded as new equipment (computers, storage, communication devices), and new operating systems programs (VM, CMS, VSI, WYLBER, etc.) are introduced. All of these elements interact, requiring the most careful systems regeneration, program adjustment and documentation. The truth is that many such systems end up being voracious consumers of

programmer hours and line-service time, and creators of human frustration throughout the system. They become monstrous, invisible Rube Goldberg contraptions—without the saving grace of the cat and the funnel.

The existence of the West Virginia Net has had two important serious consequences for the University. First, the fact that the network is there, and with such a wide range of University applications, has denied the University the opportunity to develop its own people in the use of this new technology and has also denied the development of applications *within* the University. Secondly, the West Virginia Net situation is a convenient lightning rod for faculty and staff upon which to discharge dissatisfactions and excuses for inaction. The formation of Computer Policy Boards and Academic Advisory Committees on Computing are typical but ineffective, even counterproductive, responses which do not address the fundamental issues (internal and external) in terms of the University's broad purposes and goals.

The prior consultant reports (July 1981 and November 1980) indicated the systems difficulties (inherent and operational) in West Virginia Net, but did not address the fundamental philosophy involved or conceptual systems which might replace the network. In sum, their recommendations concerned stabilizing and maintaining the machine/programming systems and bettering the organizational and human resources involved.

The major inadequacies of the system as seen by the consultants include:

1. Reliability and responsiveness suffer from the number of major systems (VM, CMS, VSI, MVT, WYLBER, etc.) and diversity of applications (administrative, instructional, and research) being combined upon a centralized system;
2. A high price is being paid in return for relatively limited benefits of the VM (virtual memory) operating system;
3. Documentation and program systems maintenance is well below that needed to keep the system operating at even minimum efficiency;
4. Communications and technical help flowing from West Virginia Net and the University's Computer Service is below acceptable levels of performance, leading to poor service and frustration;

5. Decision making about, and procurement of, equipment at both the central and remote sites is cumbersome and a cause for unnecessary resentment and frustration;
6. The qualification and training of personnel at remote and central sites are too little for the complexity of the system.

We go beyond the prior consultant's reports, which essentially called for stabilization of the system and removal of certain obsolete system programming. Instead we suggest the state Board of Regents and the University rethink the purposes and design of the system. Any solution will *not* mean the wholesale elimination of equipment, programs or services but rather a reallocation of resources to best meet state-wide needs. Developments in the computer industry make this an ideal time for such consideration.

Further, a plan for West Virginia University cannot be undertaken in vacuo, but must be developed within the context of West Virginia Net's future. Under any conditions the University will be required to work with the West Virginia Net system for several years as the computer capability of the University is increased. In addition, the network should continue as a service to other, smaller institutions in the state and in this the University can be a strong support resource. Ideally, the University should be given direct management responsibility for the operation of West Virginia Net and an additional responsibility to provide, through its agency, necessary computational services to other higher educational units in the state.

As stated above the University is built upon a structure of information and knowledge. The possibility of instrumenting any set of its functions demands that the University leaders have the authority, responsibility and accountability for its successful accomplishment. To separate these as is now the case between the University and West Virginia Net is to guarantee neither organization will achieve its best potential.

University Computing Service

This group occupies an awkward position organizationally and in terms of its being able to deliver service to those in the University needing computation. It appears chronic staffing and training

problems have compounded the ineffectiveness of its operation and the frustration of those involved. Since the group essentially acts as a front-end broker to the West Virginia Net service operation changing, or even improving, the present University Computing Service independently of reshaping the West Virginia Net will produce little effective results.

On the other hand, there exists throughout the University a number of manual clerical operations either as backups to specific applications on West Virginia Net or as reflections of mistrust of that system. These represent potential cost displacements which might be applied to strengthening the computing function *on* campus.

Recommendations

1. The role of the centralized West Virginia Net should be reassessed in light of technological changes in the computer industry and the specific needs of the University. The basis for such assessment exists in the two prior consultants reports.
2. The University, working with the Board of Regents and the management of West Virginia Net, should jointly develop a plan to strengthen the University through developing its own computer capability while at the same time making the network a more important service for the other institutions in the system, the whole being under the direction of the University.
3. Upon the basis of such a plan reallocate resources (personnel, equipment, and systems), to best realize the objectives established.
4. Recognize that administration, research and instruction are different functions, each of which should develop separate plans for the use of computation and data processing.
   a) Within the administration there should be an integrated plan for the application of computing services to all functions, i.e., Admissions, Registration, Accounting, Development, etc. Common and commensurable record formats, data bases and reports should be developed.
   b) The research functions of the University should be organized to take advantage of the large computers now in the West Virginia Net. The two Amdahl computers should have

their primary responsibility vested in the research needs of the University and other state colleges. This should leave sufficient capacity for handling the other service responsibilities of the network.

5. For the instructional uses of computing, individual schools and colleges should be encouraged to develop their own plans and implementation. In this process there would, of course, be staff review and assistance. The crucial point here is that faculty will develop the confidence and competence necessary to success to the extent that the work is their own creation.
6. As a start, three instructional areas or schools should be selected for immediate support. Several policy guidelines should be established. Among these:
   a) Procurement should be limited to the major suppliers to ensure quality and support of product;
   b) Insistence upon *standard* products and program systems within a particular area. (This will provide responsive service, interchange of elements and guarantee of continuity.)
   c) Coordination of the individual school or area's plans with the University-wide plan.
7. Within each of the three selected areas a design should be established to have freestanding computers which are also capable of being linked in a hard-wired local network. Here a system like the PC-Corvus would serve well with either one of the PC's or a Corvus unit serving as systems file/servicer/manager.
8. Plan to prove, within a reasonable time, the ability to interconnect the three local area networks to constitute a shared subsystem. At this time, if appropriate, interconnection can be made to West Virginia Net. Antecedent to the successful implementation of this stage will be the requirement that a systems network architecture be selected and developed.
9. Each local area network should have the responsibility to teach all faculty and students in its academic unit the essentials of computer use, Basic and possibly Fortran, programming, as well as mimimum word processing and graphic skills. To the extent possible each unit should be encouraged to reach out by offering these to those in other departments who demonstrate interest.

10. As time goes on a benign metastasis should take place, with other departments developing their own computer competence and networks. A schedule of this should be part of the University-wide plan and budget.
11. Within the University, encourage the establishment of Technical Liaison Groups to provide communication and technical exchange among the various computer enterprises. (Such groups could provide workshops and seminars in the interest of fostering computer knowledge and competence in the University. They would also provide a valuable resource in extending knowledge and service to other educational and commercial institutions in the state.)
12. Provide support for the small group of faculty interested in instructional technology. (As a first order of business they should visit six to ten locations in the U.S. where the best work is being carried out. They should establish an inventory of application and develop a plan for this important area. This will be money well spent, keeping them from reinventing the wheel while stimulating their thinking.)
13. Develop an inventory of personnel resources in the University — those already in the computer usage set and those who are interested. (These should form the cadre for the expansion of computing in the University.)
14. With respect to organization, a strong staff executive, probably reporting to the President, should be given the responsibility for preparing and seeing that plans are implemented. Working with this person should be one person responsible for planning and coordinating the transfer of administrative functions from the network to within the University. A second person should be given similar responsibility for the research needs of the University. A third person should chair a committee on Computers and Instruction, being made up of the leadership of the groups mentioned in Recommendation 6. These three people and the staff executive would report to the President as the University-wide Computing Committee.
15. As an interim measure the University Computing Service should report to this staff officer. This would eliminate a great deal of confusion about purpose and reporting relationships currently plaguing the group.

16. At some point in the progress of implementing the recommendations presented herein, the Committee and Boards currently set up to monitor computing should be disbanded.
17. Plans should be made for the establishment of a Computation and Data Processing Advisory Group, to be drawn from business, government, and professional society leadership. This group could provide valuable advice and criticism as well as constitute a bridge to the several constituencies the University serves in West Virginia.
18. Under the office of the staff executive mentioned in Recommendation 16 a liaison program with the public school system should be established to promote a proper match between the University's mission and that of the school system's with respect to the teaching of computation and data processing.

Conclusion

The University of West Virginia is a great institution. One need only to look at its record or its current posture to reach this conclusion. This report is intended to carry with it a sense of urgency for time is running out. The intersection of advancing technology and declining institutional momentum is rapidly approaching. Whether it be these or other actions, action is demanded NOW.

The consultants cannot state too strongly the urgency we feel. The corrosive nature of the present deterioration in this area makes other areas of the University vulnerable.

Panel Members:

Charles DeCarlo
M. Richard Rose

Panel Report on Enrollment Management

SUMMARY

1. Reexamine assumptions about future enrollment trends.

The Panel believes the University faces powerful forces of enrollment decline because of:

a. Falling student population in the state — 10 percent fewer high school graduates by 1990.

b. Heavier decline in neighboring state — Pennsylvania decline is expected to be 34 percent.

c. Recent increases in non-state tuition have caused deterioration in WVU's competitive position.

d. Policy of faculty groups favoring raising admission standards. If gradepoint cutoffs were raised to 2.5 in state and 2.75 out of state a 17 percent decrease in Freshman enrollment might result.

2. Do not stake future on non-traditional students.

A Board of Regents proposal states that the 10 percent decline in high school graduates can be overcome by 24-48 year old enrollees. The Panel questions this statement since only nine percent of the WVU student body is in this age group and since it takes six non-traditional students to replace one full time student. Non-traditional students cluster in large metropolitan areas; their enrollment is highly cyclical, and their dropout rate is four to five times that of full time students.

3. Carefully anticipate the consequences of downsizing.

Possible consequences:

a. Loss of Legislative support since Legislators heed undergraduate enrollment.

b. Redistribution of students from state university to state colleges creates negative social policy effects: resegregation by races; resegregation by socio-economic class; loss of upward-oriented role models by students who need them most.

4. Establish a Vice President for Enrollment Management.

Contrary to prevailing optimism, Panel believes WVU should prepare for serious enrollment decline. To cope with this probability, Panel suggests redefining the Dean of Admissions position as a Vice President for Enrollment Management embracing: admissions and records, recruitment, retention, financial aid, enrollment planning, orientation and advising.

5. Mount a major student retention effort immediately.

Retention is cost-effective. Eight to ten new "inquiries" are required to fill each student slot. Educational quality is enhanced by retention.

6. Debate whether the college-going rate among high school graduates can be changed.

Panel doubts Regents' proposal that 5.6 percent increase would bring WVU up to SREB averages. Panel believes 36 to 48 percent rate is needed to bring WVU up to national average—a 33 percent change. Can this be accomplished?

7. Debate alternative concepts of the quality issue.

Two definitions of quality:

a. Raise the ACT scores or gradepoint averages.
b. Add value to whatever students you have.

At present WVU favors raising admission standards. The Panel contends that the value added definition of quality fits more clearly within the land-grant, populist philosophy. The Panel urges WVU to debate this important issue.

COMPLETE REPORT

The Enrollment Management Panel obtained information in several ways: (1) we met in New York with top administrative officers of the University on February 8-9, 1984; (2) we visited the campus and met with the Search Committee for the Dean of Admissions, and the Enrollment Management Task Force on April 4-5, 1984; (3) we examined a variety of documents supplied to us, such as the *Regents' Proposals Concerning Institutional Missions*,

Responding to our request at the New York meeting in February, the Admissions and Records Office, under Carl D. Hadsell, Assistant Dean, prepared a lengthy statistical support document. The report is referred to here as Benedum Panel Workshop Reproductions (hereafter, *Reproductions*).

Obviously, such a short examination cannot be comprehensive; nor do we have in-depth knowledge. However, the University has invited us to make comments about our impressions, and with full knowledge that our viewpoint is limited we will make some recommendations:

1. Seriously reexamine your assumptions about future enrollment trends.

The *Regents Proposals* Executive Summary states:

Enrollment Projections — No Decrease for 1990 — West Virginia's enrollment in public institutions will not decline. There will be 10 percent fewer persons graduating from high school in 1990, but a dramatic 30 percent increase in the numbers of persons aged 25-44. Since this age group constitutes 38 percent of the number of the 1983 enrollment at public colleges, no enrollment decline is foreseen. (*Regents' Proposal*, p. 1)

We have serious questions about this optimism.

a. West Virginia will experience moderate declines in the high school population over the next 12 years—an 18 percent drop from 1981. (*Reproductions*, p. 6)

b. West Virginia University draws a substantial portion of its students from neighboring states — 38.2 percent in 1983. (*Reproductions*, p. 6)

c. The neighboring states are projected by WICHE to have a worse pattern than West Virginia. Pennsylvania, for example, is predicted to have a 34 percent decline from 1981! (*Reproductions*, p. 6)

d. Your competitive position on cost has deteriorated substantially. Your pricing *vis à vis* other states has in the past been highly favorable — 18 percent less than the University of Pittsburgh and 8 percent less than Pennsylvania State in 1981-1982. But by 1983-1984 you were more expensive, by 16 percent and 27 percent respectively (comparing your out-of-state fees with their instate fees). (*Reproductions*, p. 42)

e. The Regents' stated policy is either to increase money or decrease students:

> The Board of Regents is proposing that at West Virginia University the range and size of programs be brought into balance with resources, as an element of maintaining and enhancing the quality of the academic enterprise there. If resources do not increase adequately to strengthen the quality of graduate and upper-division programs, undergraduate enrollment should be reduced to bring congruence between resources and enrollment. (*Regents' Proposal*, p. 2)

Unfortunately, we really only heard people talking about decreasing students.

> f. Several academic departments are discussing raising admissions. A statistical simulation by the Admissions and Records office suggests a decrease in freshman enrollments of roughly 17 percent if gradepoint cutoffs were raised to 2.5 in state and 2.75 out-of-state. (*Reproductions*, p. 39)

In short, West Virginia University faces powerful forces of decline:

- falling student populations in the state
- even greater declines in neighboring feeder states
- new pricing disadvantages *vis-à-vis* neighboring states
- deliberate policy by the Board of Regents
- deliberate policy to "increase quality" by the faculty.

Frankly, the members of our Panel felt an urgent need to spotlight what we believe is unwarranted optimism about future enrollments. We anticipate a much deeper decline than most people seemed to believe. Taken together, the forces we listed above may cause cutting to the bone, not just a "leaner, meaner" operation (as one wag stated it).

The mentality of "downsizing" seems to have caught on. We believe it is prudent to stop, examine, and debate this issue carefully before going further with downsizing plans.

2. Do not stake your future on "non-traditional" students.

The *Regents' Proposals* optimistically states that the 10 percent decline (we suspect higher) in high school graduates can be overcome

by 24-45 year old enrollees. We do not believe this is feasible. Currently these students are nine percent of your student body, up 36 percent since 1977, *but* nine percent is still only nine percent. And many experts on this subject believe the possibilities are very limited for increasing these students. (See Fred Cross and Carol Frances, *Change Magazine* article, July-August, 1980.) The discouraging facts are these:

- it takes roughly six non-traditional students to replace one student since they take far fewer courses.
- non-traditional students have a notoriously high dropout rate, four to five times higher than traditional students. Enrollment of non-traditional students is highly cyclical depending on economic conditions.
- most "non-traditional" students cluster in large metropolitan centers, an advantage not available to West Virginia University.

3. Be careful to anticipate the consequences of downsizing.

Some of those consequences are likely to be:

a. Loss of some political support. We believe Legislative support follows undergraduate enrollment. Anyone who believes that the University will continue to receive the same inflation-adjusted funds in the future after an enrollment decrease is, at best, optimistic; at worst, naive. And promises made now will likely evaporate with changes in Regents and Legislators.

b. Redistribution of students from the comprehensive state university to other institutions. The Panel repeatedly expressed its reservations about this. Our experience suggests this can have serious negative social policy effect:

- resegregation by race
- resegregation by socio-economic class
- loss of upward-orientated role models by the students that need them the most (i.e., lower achieving students shut out of the comprehensive university by increased standards).

4. Establish a Vice President for Enrollment Management.

The Panel agrees that this University, like most others, has not needed to worry about enrollment in the past. Consequently its efforts in enrollment management are predictably disjointed, un-

coordinated, and decentralized. Fat organizations can afford such luxuries. But *threatened* organizations usually respond by spotlighting problems, centralizing efforts around the threatened problem, and reorganizing administratively.

We believe that, contrary to prevailing optimism, West Virginia University ought to prepare for serious declines. If we are wrong, no harm done. If we are right, however, and the University fails to prepare the consequences could be severe. In short, to prepare for trouble is the conservative position.

Four Models of Organization:

In their book *Strategies for Effective Enrollment Management*, Kemerer, Baldridge, and Green note four common patterns of administrative organization around enrollment management:

A. Disjointed Uncoordinated Efforts: The most common model, and the one apparent at West Virginia University.

B. A Committee Model of Coordination: a standing committee of key actors to coordinate and plan enrollment activities, including Admissions, Records, Advising, Academic Affairs, Orientation, etc.

C. A Coordination Model: The standing committee above plus a permanent senior staff person (e.g., Assistant Vice President).

D. A Vice President of Enrollment Management: A senior position coordinating a full range of people involved in enrollment.

We believe the proper approach would be to use the fourth model, plan for serious problems in enrollment, and reorganize accordingly. Why? This is the conservative strategy. West Virginia University may not have enrollment problems in spite of major trends toward decline. But if you do, a major reorganization in advance may shake up the complacency, focus the debates, and concentrate manpower and effort. If it turns out later that you do not have a problem this attention will have hurt nothing; if you guess wrong, however, and fail to prepare adequately the consequences may be serious.

Our recommendation: redefine the Dean of Admissions position as a Vice President for Enrollment Management. Reorganize

so that the following areas have directors and report to the new Vice President:

- Admissions and Records
- Recruitment
- Retention
- Financial Aid
- Enrollment Planning
- Orientation
- Advising (?)

Obviously, the exact arrangements will depend on many local conditions. The search committee will, of course, need to be heavily involved.

5. Mount a major student retention effort immediately.

We believe retention is a cost-efficient method of maintaining student enrollment. It takes roughly eight to ten new "inquiries" to fill each student slot; it is far more cost-effective to keep students you already have than to find eight to ten new potential students. Educational quality is enhanced by retention, keeping qualified students is better than reaching further into the barrel for less qualified students to fill seats.

6. Debate whether the college-going rate among high school graduates can be significantly changed.

The *Regents' Proposals* suggests a substantial increase in the rate of high school students going on to college:

> The minimum goal for 1990 should be to enroll at least the same percentage of the State's population as the average of the 13 other member states of the Southern Regional Education Board (SREB) and, further, to support programs at a level sufficient to equal the SREB average of Educational and General (E&G) expenditures per FTE student. (*Regents' Proposals*, p. 3)

The *Regents' Proposals* says that a mere 5.6 percent increase would bring WVU up to SREB averages (unstated). Perhaps. But our assessment suggests a move from 36 percent to 48 percent rate is needed to get up to national averages — a whopping 33 percent change.

How probable is this change? Members of our panel disagreed. Some thought a change was possible with hard work. Others felt "history is the best predictor," and were much more pessimistic about increasing the college bound rate. The Regents' optimism about future enrollment is partially based on this change; if it does not occur that is one more sign of trouble.

7. Debate alternative concepts of the quality issue.

There are numerous definitions of quality. First, raise the ACT scores or gradepoint averages. Second, add value to whatever students you have. The implicit discussions at WVU seem to have accepted definition one. Why? That is simple—cut off part of the bell-shaped ability curve. Perhaps the latter should be debted more. "Value added" definitions of quality fit more clearly within the land-grant, populist philosophies. The "added value" definition, of course, is more difficult to accomplish since it requires increased attention to students who could simply be locked out under the "gradepoint" model of quality. This issue demands serious examination.

Panel Members:

J. Victor Baldridge
Donald Dickason
Robert Holmes
William Sherrill

Panel Report on Extension and Continuing Education

SUMMARY

1. The University should follow the dictates of the Land Grant Act to "bring education to the sons and daughters of the working classes at times and places convenient to them" in all parts of the state. A concerted effort should be made to permit West Virginia University to serve the entire state in continuing education and extension rather than to follow the present practices of carving up the state geographically and politically, assigning specific territory to individual state universities and colleges.

2. All programs in Continuing and Extension Education should be offered in one administrative unit rather than through individual schools and colleges.

3. The administrative head of Continuing, Cooperative, and Extension Education should be one of the key administrative officers of the University, reporting directly to the President or to the Vice President for Academic Affairs.

4. The key to the success of Continuing and Extension Education is entrepreneurship. Therefore, it is essential that:

a) The University receive adequate support for all programs offered from state, federal, local, and/or tuition income.

b) Faculty receive adequate financial rewards through overload compensation and be relieved from some normal campus teaching responsibilities.

c) Faculty rules for promotion and tenure take into consideration efforts expended in continuing and extension education.

d) Faculty be relieved of the chore work of logistical support.

5. The University should make better use of electronic aids and other devices such as television, videotapers, teleconferences, etc., in delivering courses to off-campus sites.

6. The University should consider giving associate degrees and rethink and define what is meant by continuing education units.

7. The use of adjunct faculty should be encouraged.

8. A statewide survey of what West Virginia needs by way of continuing education should be undertaken.

COMPLETE REPORT

West Virginia University Center for Extension and Continuing Education

West Virginia University should be the flagship of the State of West Virginia's educational system, and Continuing Education could be and should be one of the most important divisions of the University. If the University is to "bring education to the sons and daughters of the working classes at times and places convenient to them" to quote the Land Grant Act, then West Virginia University should be busy in all parts of the state. Neither Continuing Education nor the University can do an adequate job if the state is carved up geographically and politically, assigning Discipline A to one university and Territory X to another. Education, especially at the more advanced levels and most especially in the scientific disciplines, cannot be divided that way. The state does not have the resources, manpower, or facilities to duplicate educational disciplines in several universities in several parts of the state. For instance, certainly in West Virginia there should be a small group of people who are skilled in the science of robotics. No one questions that this subject is important, indeed essential, to industry today, particularly in the mining industry. Yet, West Virginia cannot support three or four groups at separate universities who are equipped and able to give education and to render assistance in this area. If West Virginia University has the capacity to teach robotics, do research, and offer consultation, it should do so anywhere in the state.

The present Continuing Education staff is not demoralized, but it is very discouraged. It has been studied, analyzed, and dissected too much and too often without any visible results. Rumors abound that the division is about to be put on its feet, about to be buried, or about to be carved up between teaching departments. Morale is low, and nothing new will be started until a decision is made. It is essential that something be done quickly. It is our recommendation that the general organization of the unit be kept as

it is, but that everything be done that is possible to improve its status within the University.

The division is doing a good job, especially in the area of cooperative extension, and it will continue to do so. However, it must be told that the time has come to move ahead, that its efforts are appreciated, and that it will be given the support to intensify and widen its activities. It must be shown that rewards will be commensurate with effort expended by the staff at all levels.

The person who heads Continuing Education should be one of the key people in the University and should be highly visible. Obviously, he will be visiting and speaking with people in all areas of the state, especially to county committees who provide funds for the cooperative extension activities. He should be equally well recognized by the business community and in the manufacturing, mining, and forestry industries. The proper person will eventually wield great influence because of his connections to the local governing bodies and to the Legislature. He must be a salesman for the University. He can be the President's principal emissary to the people of the state. Therefore, he should report to the President or the highest possible level in the administration.

The heart of Continuing Education is entrepreneurship, the initiating of new courses whenever and wherever they are needed and guiding them to successful completion. The reward for entrepreneurship is financial gain, both for the institution and for those who do the work. Therefore, it is essential that a system be established by which everyone receives financial rewards for his effort, the more effort bringing the more reward. Take, for instance, the robotics case. If a group needs a course in robotics in Charleston, a price should be established which is fair but still remunerative for the University. There are not heavy restraints on costs to the student when one remembers that such a course would probably be taken by young engineers who are being paid in excess of $25,000 per year and whose companies will likely pick up the bill anyway. The teacher, if a member of the faculty should be amply rewarded, not just by being relieved of teaching an equivalent number of credit hours on campus, but by being paid overtime at a rate comparable to what he can command by consulting personally on robotics with industrial corporations. The University, too, should

gain, being able to add to its coffers amounts which will cover courses which do not quite pay their own way or courses which have to be given because of university obligations or to provide the funds to try new ventures on an experimental basis. Continuing Education will never grow in an atmosphere where there is no reward.

The University should make better use of electronic aids in delivering courses to off-campus sites. Some attempt has been made in the College of Business, but the University as a whole has not kept up to date. Certainly the use of television, video tapes, teleconferencing, and so on must be pushed if the University is going to reach an appreciable number of the citizens of the state. This will require some capital investment, but in the long run as the number of students grows, it will pay its way.

The use of the Continuing Education outlet is very uneven, being used mostly by the College of Agriculture and the College of Business Administration. The College of Engineering takes no part, and it should be encouraged to do so.

The Continuing Education organization must adopt different levels of faculty surveillance of what goes on in extension teaching. For instance, in their graduate courses everything except financial affairs should be decided and planned by the graduate faculty. At the other end of the spectrum, the 4-H courses and general education courses, little surveillance by the residence staff is needed and these courses can be left under almost complete control of the Continuing Education organization.

The faculty of the University should not be asked to organize courses, collect fees, arrange classrooms, etc. There should be a staff to do this sort of thing.

The University and Continuing Education should consider giving associate degrees and certainly they should rethink and define what is meant by continuing education.

The use of adjunct teachers from industry should be encouraged; at least in engineering organizations, there are many who would like to try their hands at teaching. Very often the companies are quite happy to make their services available because of the prestige of the affiliation with the university. Nevertheless, a proper standard of remuneration must be established for adjunct profes-

sors even if, as will be true in many cases, the professors choose to work without pay. In connection with this, a better way must be found to measure faculty qualifications, including not just degrees taken but also the value and pertinence of the kind of work the adjunct professor does in industry. Lastly, a real attempt should be made to knit the adjunct professor into the academic system and into the academic process.

As far as we can tell, there has never been a good survey of what the State of West Virginia needs in the way of continuing education. Such a study should be performed by asking a broad spectrum of people: engineers, accountants, hospital aides, housewives, and so on what they would take if it were available. With such a survey, the center could begin to devise a program which would be effective and acceptable.

The Cooperative Extension Service of West Virginia: Campus-Based Extension Faculty and Coordinators

Cooperative Extension should remain administratively and budgetarily as a part of an extended services unit separate from the individual colleges/schools. However, better program, staffing and coordination linkages are needed with the College of Agriculture and Forestry, Department of Family Resources, and with other colleges/schools of WVU which include disciplines and research which could and should be extended to the people of West Virginia through the Cooperative Extension system. That should help to ensure credibility to the subject matters extended to the people, provide for efficiencies and coordination in the extending function, and assist in developing a strong public image of one coordinated WVU public land-grant university operation to the people. The Extension unit and its county offices thus become the *public's* university unit and *their* open door to the University.

An option for strengthening these linkages would include: Office all campus-based teaching (programming) faculty with their respective departments/disciplines where they are full partners in the faculty and departmental processes. Wherever possible, and at the appropriate times, develop split appointments with the research function for those faculty. The research function is as appropriate

to the extension teaching function as to the resident teaching function. In such a process there should be no loss in extension programming (specialist) FTEs. The resident teaching function does not lend itself as well as a combination of the extension specialist position since it tends to tie faculty to rigid schedules much of each week, reducing their availability for work throughout the state with and through the county extension agents. In limited cases where a resident teaching/extension teaching combination is necessary, the resident teaching function needs to be all at the beginning or end of a week or in only one semester or academic period per year. By and large, joint teaching combinations should be avoided. It is the research/extension combination that keeps the extension teacher sharp, gives status to the role, keeps the research in the discipline oriented to the practical problems in the state, lends itself to flexibility in time use with extension functions and enhances the public image of the extension teacher. Further, such combinations provide for access to the agents and the public to a wider range of narrow specialties within a department. Generally, positions with less than 30 percent to either the extension or research function should be avoided. In each department or discipline one or several of the faculty should carry their major role in the extension function. Some of these shifts may be made with current incumbents, depending upon their competencies and traits, while other combinations may need to take place at the time of replacements or new appointments — but a long-term plan, agreed to by the President's Office and the respective Deans and Extension Director, is needed for a sound transition to take place.

Another potential for closer linkage is the assignment of a small budget percentage (like 10 percent) on the department chairs who have or should have significant extension from their department through the Cooperative Extension system. Indeed, the same may be the case for a college or school dean. There must be a commitment by them to the extension function and system equal to the commitment to the research and resident teaching functions and system if this three-part partnership is to become and remain vital to the people of West Virginia. Thus, the department chair is responsible for the total offerings from the department. This administrative reinvestment must not be done at the expense of ex-

tension teaching (specialist) FTE resources, nor at the expense of the resident teaching/research resources. Rather, it is an administrative shift in funding. The extension head should have the final budget authority for all extension funds so he/she has the direct official connection to those administrators. To further this operation, the extension program head for agriculture and community development work might be budgeted partly to the College Dean's Office and he/she be officed there part-time and, further, attend all meetings of the department chairs along with the Dean. Indeed, he may carry the title of Associate or Assistant Dean of the College as well as program leader or administrator in the Cooperative Extension Service unit. Thus, he is a full team member at the College for the extension function and depends on the chairs to manage the extension FTEs just as the others, but to be responsible for the extension function to that Associate Dean/Extension program administrator.

The same applies, but on a smaller scale because of numbers of faculty and disciplines, in the Department of Family Resources. In the other schools, where appropriate, the joint/split faculty appointments are in order but the extension administrative relations would be handled by the same Extension program administrator or by the Cooperative Extension State Director, as needed.

Research

Research from/at WVU as a base for extension programs is nonexistent in home economics and family resources and concerns. It is less than adequate in the community economic development, recreation industry development, and rural leadership development—all important to the people of West Virginia. This not only leaves a major gap in terms of program need, but it leaves faculty in these fields without: 1) opportunity for the continuing "sharpness" and innovative leadership in their field, and, 2) opportunity to meet the current WVU faculty criteria for promotion in rank and tenure. It also denies these faculty the options and privileges of peer and professional contributions and papers to their professional societies.

We recommend attention be given to this area and a plan be developed to use options available with current WVU research

funds; and to aggressively seek new research funds from both public and private sources.

The Reward/Incentive System for Extension Staff

The salaries of WVU county-based staff are inappropriately low by any standard of measurement and comparison. Further, there is no system of promotion available either by title, academic rank, salary or classification. It is a demoralizing situation; and there is ample evidence that those staff members feel/perceive that there is indeed a bias and neglect regarding them and their positions and functions by WVU administration and faculty. If they are to become positive aggressive ambassadors for WVU as well as effective positive aggressive educational leaders in the counties, this situation will have to be resolved.

Rank and tenure on the campus for campus-based (department-based) extension specialists also needs internal re-examination. The trend is toward faculty peer criteria which are heavily oriented to research and to research publication for professional peers no matter what function the faculty member is employed to perform. That is unfair to the faculty and to the University and to its student image and public image. The land-grant university, in addition to basic research, is to *develop useful and practical* information for the people to use now — to teach those people who come to a campus — and to serve as itinerant teachers and extension agents throughout the state. It is not to be like the private university nor the institutes of research and technology, but to have a broader role for the people of the state. Faculty, then, cannot be judged primarily upon a set of criteria that largely ignore those functions in promotion lest there be confusion, frustration and great division within. Minimum salary levels for various professional ranks or any other promotion system would seem both desirable and rational in the upgrading of the faculty and staff.

Faculty divisional or peer committees for promotion, rank, tenure and other faculty governance functions should develop processes which provide for adequate representation of Extension faculty/staff relative to their numbers. The extension function needs to be in full partnership with the research and resident teaching functions.

Common Understanding of the Extension Function

There is a low level understanding, by faculty and administrators at WVU of the extension function, indeed of the land-grant concept, and of the current Center for Extension and Continuing Education. Two major suggestions are provided:

1. The President's Office and the Deans need to be engaged jointly in common discussions, periodically, of the extension concept, function and operation at WVU; and they need to understand the programs, the funding, the sources of funding and potential sources; and to *work together* with public leaders in budget proposals and support for them.
2. A long-range blueprint or plan for the extended services, including Cooperative Extension would be developed, with involvement from the colleges as well as the counties and key state leaders. Staff indicated that they desire such a common guideline, blueprint or masterplan to give them confidence, direction and something for the public leadership to endorse and support in behalf of WVU.

There are other suggestions within the Cooperative Extension area, more specific to operations, such as the need for enhancing support resources for communications media with the public, for computer hardware and software systems and for travel/supply/capital funding. These areas of need, however, seem to be well-established in the minds of administrators and staff. Innovations will be needed to find funding from the private sector as well as the public for such support.

Panel Members:

Eric Walker
John Everett
Gale VandeBerg

Panel Report on Finance

COMPLETE REPORT

1. The future economic, social, and cultural development of West Virginia requires a university of first-class quality as an essential ingredient to progress. The experience of other states has shown that the existence of a first-class university has made economic progress possible.
2. The restrictions under which West Virginia University operates, both those imposed by the Board of Regents and the Legislature, are so great that they prevent the institution from taking the steps needed to become a university of first-class quality. These restrictions involve: budget, accounting, personnel, control of finances, management, and the level of appropriations for operations and capital construction.
3. Moderate increases in state appropriations with substantially greater freedom for spending by eliminating line items, the opportunity to increase tuition and other student charges and to use the funds for operating purposes, moderate borrowing for capital purposes, and the aggressive raising of supplemental funds from private sources could do much toward enabling West Virginia University to take the steps needed toward increasing its status as a quality institution of higher education.
4. West Virginia University could also increase its status as a quality institution by tightening admissions standards and academic requirements, by refocusing existing academic programs to meet emerging needs of students, and by reviewing programs with a goal of eliminating marginal activities (this has already been started by the President and his Cabinet).
5. West Virginia University could establish procedures for internal and external audit and control of funds that could satisfy fully its fiduciary responsibility to the Legislature, the Governor, and the people of West Virginia.

6. In a state with low economic resources such as West Virginia, giving the University maximum flexibility would be the most efficient way for the institution to use its funds.
7. Continuing pressures on the state's budget allocations for higher education will make it essential for West Virginia University to seek alternative solutions for capital expenditure projects now on hand—solutions that would involve lower costs and financing than now proposed. In this connection, the University might find that construction experts working directly for the institution (instead of the Regents) will be able to reduce future costs enough to bring new buildings (at the Medical Center as elsewhere) within the realm of fiscal possibility.
8. Facilities renovation needs are high. A ten-year plan to meet them should be developed as soon as possible.
9. During the next few years, the West Virginia University Foundation should expect to increase substantially the magnitude of its fund raising from private sources. The President of the University will need to provide direction, leadership, and management in order to coordinate the Foundation's efforts with the University's objectives. He could gain a greater amount of financial support from corporate and individual donors than in the past by being able to commit the University to the placing of the names of donors on new or renovated building projects for which the University is seeking private contributions.
10. Resources should be provided to develop a top-quality accounting and management information system at the University.

These are serious observations that require careful and systematic study by the University as well as by outside consultants.

Panel Members:

Sidney Tickton
Frederick Ford
Samuel Walker

Panel Report on Governance

SUMMARY

Although West Virginia University was founded as a land-grant institution in 1867, it was not until the 1930s that a graduate school was established and not until after World War II that WVU could be regarded as a research-oriented university.

The decision to locate WVU at Morgantown has resulted in conflicting regional loyalties in a state characterized by distinct geographic sectionalism.

West Virginia University was and is an impoverished institution in a state with a per capita personal income in 1982 lower than all states except Alabama, Arkansas, Mississippi and South Carolina, where unemployment in 1982 was at 13.9 percent as against 9.7 percent for the nation.

Nevertheless, a financially strengthened WVU is critical to the economic, social and cultural future of the state.

Despite financial adversity and only a modest budget, WVU offers extensive curricula and uses available federal research funds in areas appropriate for the state. Faculty members, administrators, and members of the Board of Advisors are devoted and loyal to the institution.

External Governance

Some WVU leaders have expressed a desire for more autonomy than now possible under the present Board of Regents arrangement. They see the Regents, established by the Legislature in 1969 to manage state higher education, as curbing opportunities for WVU.

Having examined governance options, including the prospect of a return to a separate board for WVU, the Panel believes it is unrealistic for the present to change from the Board of Regents concept. The Panel offers these suggestions:

1. The Regents should clearly recognize the importance of a research university for the state; the staff should have a similar orientation.
2. That recognition demands a gradual increase in support for WVU and especially its graduate and research functions.
3. Regents should recognize the crucial need for differential funding formulae in a state where different institutions have different missions. Otherwise, mediocrity, not excellence, will prevail.
4. Regents should step up efforts at imaginative, statewide higher education planning.
5. Strong advocacy for higher education is necessary in West Virginia. The Regents, the Governor and the Legislature should be encouraged to provide the support needed to strengthen colleges and universities, and WVU in particular.
6. WVU must have more governance authority. Regents should delegate more authority to the University's Board of Advisors, dealing with it as though it were an independent board, but with its recommendations subject to ratification by the Regents as the state law provides.

Internal Governance

1. The Panel applauds the President on his readiness to accept a revised structure for the University Senate.
2. Finds that his proposals for administrative reorganization, adopted only seven months after he assumed office, are basically sound.
3. Is unable to evaluate "The Overview and Status Report on the Academic Planning Process," of November 1983, as prepared by the Academic Vice President, in terms of governance, but expects that subsequent reports will be available soon.
4. Finds the Faculty Handbook reasonably clear in its governance aspect and notes that its attachment to academic freedom echoes the state motto of mountaineers being free.

COMPLETE REPORT

West Virginia University: Its Evolving Governance

In mid-1862, President Abraham Lincoln signed the Morrill Land-Grant College Act. Within a year, separated from its parent State

of Virginia, West Virginia became a state of a Union wracked by the Civil War. Almost at once, West Virginia announced that it accepted the conditions of the Morrill Act.

Given the political bickering of a new and sectionalized state, the compromise decision on location was to place the capitol in Charleston and the land-grant institution in Morgantown, though even then there were those who with trepidation saw that community serving Pennsylvania and Ohio as well as West Virginia.

The college was established in 1867 in Morgantown, making use of two independent schools which were donated. In late 1868 the Legislature adopted for it the name of West Virginia University. The following year the title of the Board of Regents for the University's governing body was adopted.

It was not, however, until the great depression of the 1930s that a graduate school was set up and not until after the second World War that WVU could be regarded as being a research-oriented university. WVU no doubt served as a mark of unity for the state, but in a state characterized by distinct geographic sections, the University and its administrators over the years have been buffeted by conflicting regional loyalties.

Most serious, it was and is an improverished university. Fifty years ago, the then President of the University presented to the Legislature the miserable scale of salaries at WVU as compared to other state universities. The situation is little different today. While the state has been reasonably generous in its physical plant and particularly the athletic plant, science facilities and equipment, here as in most universities, have been falling behind. And perhaps there are too few student residences.

The economic situation of the state is, of course, serious. Despite investments in chemical, machinery and metallurgical industries, West Virginia is dependent on agriculture, timber and coal mining (which is increasingly automated) and other minerals. It is also an attractive tourist area.

That modest economic mix has led to a per capita personal income in 1982 (the last year of available statistics) lower than all states except Alabama, Arkansas, Mississippi and South Carolina. In 1982, unemployment was at 13.9 percent as against 9.7 percent for the nation.

Thus it is understandable that not only the University but most publicly supported services in the state suffer.

Our Panel is convinced that a financially strengthened WVU is critical to the economic, social and cultural future of the citizens of West Virginia, and other persons who are or can be attracted to the state.

Coal may well become more significant as the energy equation shifts in the years ahead. But if there is any state that has to reinvent an economy for itself, it is West Virginia. The knowledge base for that reinvention must come from West Virginia University. There is no comparable resource in the state. Yet the University's funds are modest against similar institutions in the nation.

This setting has to be appreciated as the background to our discussions at the University. Our focus was on the double campus at Morgantown with its 19,000 students, although we were mindful of the branches at the Charleston and Wheeling Divisions of Medicine (with Charleston quite large and Wheeling quite small), at Potomac State College, at the off-campus graduate programs there and elsewhere, and at various extension activities.

Our discussions with the University Senate leadership, other faculty, administrators and members of the WVU Board of Advisors left us with a clear sense of remarkable devotion in the face of financial adversity. Concentrating on the dual campus (we did not meet with the Board of Regents), we came away with a sense of the great pride shared by all members of the institution (and far beyond the appropriate acclaim for WVU's record in attracting National Merit Scholars and having graduates chosen as Rhodes Scholars).

With only a modest budget, extensive curricula are conducted, most federal research funds that go to West Virginia are earmarked for WVU, and ties are maintained with the federal centers in Morgantown for OSHA, for Forestry Sciences, for Energy Technology and for Soil Convervation and also with COMSAT's nearby earth-tracking station. With achievements despite poverty, President Gee's efforts to win greater autonomy, appreciation and resources for the University are respected.

As our deliberations proceeded, it became clear that greater appreciation and resources were becoming more significant than greater autonomy. There is a tendency to see the West Virginia

Board of Regents, established in 1969 to manage state higher education and to oversee all higher education, as curbing opportunities for WVU.

The tendency as seen in West Virginia is true with similar Boards elsewhere. The "share the wealth" principle does hurt what ought to be the central academic resource for the needs of the state and, for that matter, the other institutions of higher education. Along with various campus leaders in Morgantown, we conclude that having examined governance options, attractive and desirable as the prospect is of a return to separate board for WVU, it is unrealistic for the present. Our suggestions follow:

- The West Virginia Board of Regents should clearly recognize the importance of a research university for the state and it is important that the staff have a similar orientation.
- That recognition, to be operational, demands a gradual increase in support for the University and especially its graduate and research function. Otherwise, reducing undergraduate programs (as is now being proposed by some) to protect the graduate and research functions, will be inevitable. This could lower opportunities for citizens of the state and in general be harmful to higher education.
- Special recognition by Regents and staff to the absolutely crucial need to have differential funding formulae in a state where different institutions have different missions. Failure to budget according to "mission" rather than institution will lead to a general leveling of higher education in West Virginia. Mediocrity, not excellence, will prevail.
- When the Academy for Educational Development last did a major study in West Virginia, five years ago, the limited nature of the planning activities by the Regents was noted. That situation has changed somewhat and has been partially remedied. The Regents have very recently issued a report (January 10, 1984) entitled, "Proposals Concerning Institutional Missions, Program Alignments and Medical Education." This is an encouraging development. A vision is necessary for WVU and for all higher learning in the state and a set of plans for implementing that vision is vital. Imaginative, statewide higher education planning is absolutely crucial.

- Strong advocacy for higher education in West Virginia is also crucial. The Board of Regents, the Governor and the Legislature ought to be encouraged, to a greater degree, to support the colleges and universities and WVU in particular. The state needs those strengthened institutions as we have pointed out.
- West Virginia University must have more governance authority. Though we are not advocating a separate board for WVU, we do recommend a greater delegation from the Regents to the University Board of Advisors, recognizing its legal limitations. Using the present legislation (Section 18-26-9), the Regents ought to deal with the University Board of Advisors as though it were an independent board, but with its recommendations always subject to ratification by the Regents.
- Turning internally to governance on the campus, the readiness of the president to accept a revised structure for the University Senate is turning out well in its early stage.
- The June 30, 1982 report to the Board of Regents by President E. Gordon Gee, covering his proposals for administrative reorganization, seven months after he took office, is basically sound.
- "The Overview and Status Report on the Academic Planning Process" of November 1983, by Academic Vice President William Collins cannot be evaluated in terms of governance as yet. Subsequent reports should be available soon.
- The recent edition of the Faculty Handbook is reasonably clear in its governance aspects. Its attachment to academic freedom echoes the state motto of mountaineers being free.

We express great gratitude to colleagues at West Virginia University for their cooperation and candor. We were greatly impressed by the leadership and by the strong spirit of determination to move the university to new levels of excellence and by the optimism that this goal can be achieved. We share that optimism and urge that the University be given the support and authority it needs to do the job.

Panel Members:

Ernest E[illegible]wer
Martin Meyerson
Albert Bowker

Panel Report on Graduate Studies and Research

SUMMARY

Mission of the University

West Virginia needs a major graduate and research university in order to develop the state economically. A partnership arrangement, with West Virginia University taking the leadership in convincing the state of the University's need for financial resources, is vitally necessary.

Evidences of Chronic Underfunding at West Virginia University

Faculty Salaries. Near the bottom in comparison with comparable institutions. Quantitative insufficiency is exacerbated by recent distribution of limited increases on an across-the-board basis.

Facilities and Equipment. Equipment for research activities and graduate study, for the most part, is old and in need of repair.

Teaching Loads. Heavy teaching loads have limited research activity. Teaching loads have risen to accommodate increased numbers of students, especially in engineering, business, and science.

Library and Computer Resources. WVU spends two percent of its budget on the Library compared to the four or five percent advocated by accrediting agencies. Computer resources are inadequate for effective graduate and research work.

Graduate Students. Most disadvantaged constituency at WVU — heavy teaching loads, underpaid, given very little direction in teaching and in competent professional assistance.

Governance in Relation to Graduate Study and Research

Governance and Central Administration. Effectiveness of recent change in assigning responsibility to the new Associate Vice President for Graduate Study and Research still difficult to assess, but the new faculty committees established by the Associate Vice President appears to be working satisfactorily.

Faculty and Committee Structure

The Graduate Council appears to be accomplishing the task of redefining criteria for appointment of graduate faculty and has made a good start in evaluating and reviewing graduate programs.

Research Advisory Council. In its three meetings to date, it has been considering priorities, incentives to encourage faculty to increase amount of research, patent policy, and "seed" money.

Exact relationships between the Graduate Council, the Research Advisory Council, and the Faculty Senate Committee on Research Grants and Publications need to be worked out.

Conclusions and Recommendations

A. Responsibilities of the State:

Neither the benefits a major research university could return to the state, nor the scale of the investment required to build such an institution, are widely recognized in West Virginia.

B. Main Recommendation:

That West Virginia University vigorously pursue its current efforts to interpret the values and needs of a graduate and research university to the Legislature, to the Regents, Chancellor, and his staff, to industry, labor, and other organizations, and to the citizenry of the state.

Those who regulate the flow of state resources should understand that the public's investment in a graduate and research institution must exceed, on a per-student or other standardized basis, what is required to operate a four-year or two-year college.

The Board of Regents, which now governs all institutions of higher learning, should recognize and act on the special requirements of the graduate and research programs at WVU.

The research enterprise is a major undertaking to increase knowledge and improve technology and service. It is not merely an esoteric appendage to an undergraduate education. Unless this is recognized and acted upon in West Virginia, the state will underutilize one of its most important resources and will handicap its future.

C. Responsibilities of the University in Furthering Graduate Studies and Research:

Even though the Panel emphasizes chronic underfunding by the state, it points out that West Virginia University must bear its own burden of responsibility. It recommends:

1. Since WVU cannot be all things to all educational functions, it must make choices as to which graduate programs to develop further and which to cut back.
2. Continue the excellent start made in graduate program reviews by the Graduate Council.
3. In addition to "pruning" graduate programs, WVU should recognize new needs and should explore interdisciplinary opportunities.
4. Develop mission-oriented research to meet the needs of the state in such fields, for example, as transportation, fossil fuels, and use of forest products.
5. Seek to increase external funding of research from foundations, industry, and business so as to provide financial incentives for faculty members capable of and interested in doing research. "Seed" money is particularly needed if more external grants and contracts are to be obtained.

COMPLETE REPORT

The Mission of West Virginia University

West Virginia University is the state's only comprehensive, doctoral-granting research university. Hence, the issues our Panel was asked to explore go to the heart of the institution's mission. We begin by reaffirming the importance of this mission. West Virginia needs a major graduate and research university. Without it the citizens of the state will lose more than a priceless cultural resource: they will lose a great asset in their efforts to develop the state economically and deal with the risks and opportunities of a period of rapid technological change. Sometimes it is said that West Virginia, as a relatively poor state, can't afford a major university. The truth seems to us almost the reverse: as a state that has lagged economically, West Virginia has even more need than its affluent neighbors for a graduate and research institution that can help the state to lift itself up into greater prosperity.

The development of such an institution requires a partnership between the state and the university itself. The University's officers must plan and lead this development, and the faculty and research arms of the University must respond to the state's needs. But the state will not get the return it can have from a major graduate and research university unless it is willing to invest substantial resources in building it. Although an institution of growing strength will attract funds from industry, the foundations, and the federal government, it will not be able to make its full contribution to the state as a whole without a flow of resources from the state that is realistically matched to the needs of a distinguished graduate and research university. What is the evidence in support of this conclusion?

Evidence of Chronic Underfunding at West Virginia University

The budget of WVU, both historically and at present, is inadequate for a research university that is supposed to be the flagship campus of the State of West Virginia. The evidence upon which this conclusion is based is given next.

Faculty Salaries

Data are available that show faculty salaries to be near the bottom in comparisons with those at similar institutions elsewhere. Indeed, these comparisons can be made within the region in which WVU is located and its relative position remains low. This situation has been exacerbated by the lack of increase in salary during the last two years.

But quantitative insufficiency is not all that puts WVU at a comparative disadvantage. The mandate by the state that forces the University to distribute salary increases on an across-the-board basis can only result in further sapping of the quality of the faculty. An effective research university requires that merit be recognized and that incentives be provided for the most highly productive faculty members. The present debate on pre-baccalaureate education has identified the need for recognition of merit as essential to ensuring the quality of education at that level and it is even more true in a research university.

These two difficulties in the salary structure of WVU have led to the loss of some of its best faculty members and to a serious deterioration in the morale of those who remain, despite the deep loyalty many feel.

Facilities and Equipment

Not only are many of the present facilities at the University inadequate for the promotion of state-of-the-art research but the equipment available, for the most part, is old and in poor repair. This underscores the need for both *new* facilities and equipment and for continuing and adequate maintenance and repair. The effects of these inadequacies are visible in teaching at WVU and in research. For example, laboratory teaching in science proceeds without students having access to modern equipment and it is difficult even to keep old equipment in repair because of insufficient support for maintenance. As for research, external granting agencies require that existing facilities and equipment be adequate for the research proposed; however, frequently, investigators at WVU do not meet these standards. This circularity prevents optimal exploitation of outside research support, thereby denying researchers the opportunity of extricating themselves from this difficult situation by their own efforts. A case in point is the need to improve the dire computer situation on campus. The University has the opportunity to obtain considerable help from a computer company toward the acquisition of more such instruments but the necessary matching funds are difficult to find. Consequently, the University suffers because its role as the major university in the state deteriorates and the state suffers because a potential ally and resource in improving its own economic difficulties is frustrated in trying to address these issues.

Teaching Loads

To add to these difficulties, as the budgetary situation has worsened, teaching loads have risen in response to increased numbers of students. This is especially true in the engineering, science and business units so that the very groups that could obtain the most external support and help the state most immediately are the ones that must cope with the largest increase in teaching loads. That this

situation robs them of the time needed to do research and prepare and submit research proposals is clear.

The Library and Computer Resources

These resources are treated separately because of their pervasive importance. Currently, about two percent of the budget of the University is spent on the library. This is to be compared with the minimum standard expected by accrediting agencies and other informed observers, which is four to five percent. Clearly, *all* aspects of teaching and research within the University are jeopardized by this situation, which is made worse by the chronic nature of this deficiency.

Computer resources have been mentioned above and have been subject to examination by a separate panel from the Benedum Study. However, the central position that computers occupy now and increasingly in the future as research and teaching tools at every level requires that we emphasize the need to improve access to this technology and increase the capacity of computers on campus.

Graduate Students

In our view, graduate students are among the most disadvantaged constituencies at WVU. Yet they occupy an absolutely central role in a research university. At the same time that this group does a lot of research it is responsible for a significant proportion of undergraduate teaching and assists the faculty in this important role. Many of this group are devoted to teaching and bear heavy responsibilities, sometimes spending over 30 hours a week at this activity. Yet, like the faculty, they are underpaid. Their lot, if anything, is worse than that of the faculty because their careers are in the making and the delays they incur in getting their degrees impair their opportunity to compete for jobs and, therefore, their earning potential. Other reasons for such delays include difficulty of access to computers and to competent professional assistance in accomplishing their research, lack of fellowship support and secretarial and other help. They are casualties as well of the deterioration of the library and of the heavy faculty teaching loads which leave too little time for consultation and counseling.

To conclude this section, inadequate financial support from the state has led to a serious erosion in the time available for research at WVU, and for the renewal of teaching expertise that this activity ensures. Such erosion has affected both graduate students and faculty and is exacerbated by a lack of facilities and equipment with which to develop support for projects and to do research. By the same token, the state hampers its planning effort by starving its most potent resource for the study of the means through which its economic future and the welfare of its citizens can be improved.

Governance in Relation to Graduate Studies and Research

Governance and the Central Administration

It is necessary to recognize the inherent difficulty and expense of doing research and managing graduate work. The present conditions within the University clearly show that the mission of the University has not been appreciated by the state. The transition now in process is crucial if WVU is to succeed in its mission, and the planning and development of procedures towards that end are of special importance. Some changes can be effected rather quickly but the fundamental changes in attitude, organization and procedures will take time, and an overly ambitious schedule can lead to frustration and discouragement. There needs to be a constant effort towards improvement and change, termpered by the recognition that the heavy burden of teaching and other responsibilities, as well as lack of material resources, will dictate slower progress than might be hoped for at the start.

The recent changes that have taken place in the organization of graduate work are difficult to assess at this stage. Successful graduate schools come in a variety of forms because the basic necessity for success is not a particular organization but the quality and commitment of the faculty and sufficient resources to permit them to do excellent research and teaching and to recruit graduate students of high quality. Under the present system the Associate Vice President for Research and Graduate Studies will have to exercise strong leadership to successfully move through the transition period. It will be wise in those colleges that have more than a few departments doing graduate work to formalize and stabilize

the responsibility for those graduate programs by having an assistant or associate dean for graduate programs. This would help to ensure that essential functions, such as admissions, financial aid, counseling, and monitoring the progress of the students are not neglected. Those colleges that are not departmentalized or are small will require the Vice President and his staff to exercise some oversight. For policy issues and some operational matters, such as program review relating to graduate programs and research, the Vice President should call on the advice and counsel of the faculty engaged in graduate teaching and research through appropriate committees. It is obvious there will be overlapping interests in any such arrangement but the present system, which will be described below, seems to be working well.

Although the Vice President has the ultimate responsibility with his faculty councils for the establishment of standards for admission and for graduation, the enforcement of these standards must rest with the schools and departments. In order to understand how well these units are functioning it will be necessary to develop adequate records. It is important to know the number of applications and the number of applicants offered admissions and accepting offers. In addition, a record of financial aid offered must also be available. Progress towards the degree also has to be followed: it is important to know how many people graduate, the time to a degree, and the number and types of degrees. It is only with complete records relating to these and other matters, such as test scores, that the status of the graduate programs can be determined and, if necessary, steps be taken to improve performance.

Therefore, the lack of adequate records is a handicap to good management of the graduate programs. The situation is exacerbated by the difficulty the University has had in keeping pace in the acquisition and utilization of computers. Considerable funds will be needed to improve the computer facilities at the University, as discussed before. Although computers would alleviate many problems, graduate schools ran successfully for years without them and a great improvement could be made in record keeping with proper attention to effective manual processes. This might require some clerical help but it would be well to get it in place now rather than wait for the computer facilities to be completed.

Governance In Relation to the Faculty and Committee Structure

An important part of the transition that has been described above is the development of a new committee structure, both within the Faculty Senate, and in respect to groups that work directly with the Associate Vice President for Academic Affairs and Research. Therefore, we can only draw tentative conclusions in this evolving situation although our overall impression is that these groups are making good progress in defining their roles and interactions.

The Graduate Council

In completing the task of helping to redefine the criteria for the appointment of graduate faculty and involving the schools and colleges in the process, the Council has accomplished a major and difficult job. Monitoring the process on a continuing basis, and conducting five-year reviews of the graduate faculty are realistic and appropriate ways of ensuring that rigorous selection occurs. However, the fact that members of the faculty who are not part of the graduate faculty still may be research mentors for graduate students should be reexamined.

The Council's role in the design and implementation of program reviews is an important one. All of the schools and colleges are involved and the first phase, which is data gathering, is well along. Qualitative examination of programs are to be undertaken in the second phase which, like the first, seems well designed. An element of the second phase that needs further thought is the review of dissertations. We suggest that the external reviewers be asked to read some dissertations in their field, before they come to campus.

Another issue that needs resolution is the role of the Faculty Senate's Graduate Studies Committee *vis-à-vis* the Graduate Council. It is particularly important to define this interrelationship before decisions become necessary upon completion of the program reviews projected for this year and next.

More interdisciplinary programs appear to function than we found evidence for in bulletins and the other materials we were sent. Most of these function in an ad hoc way and this may be appropriate. However, the Graduate Council might consider estab-

lishing guidelines to assure better quality control, advisement and publicity. Indeed, it may be that communication of the Graduate Council's role and policies has faltered due to the rapidity and complexity of the transition to the new system of organization and governance. One suggestion that might be considered is the publication of a handbook.

An aspect of graduate work that seems not to have received much attention by the Graduate Council is the situation of graduate students. As was noted above, their rates of pay, in general, are very low when compared with those in effect at peer institutions. Such data have been compiled by students and they make a convincing case. When the low pay and paucity of fellowship support are combined with the large work loads, the potential for serious problems in recruitment and in student morale either exist already or will soon. We have already commented on the central role played by graduate students in research universities so the seriousness of this situation is clear.

That little use is made of work-study funds for graduate students is an opportunity lost. Such funds can be used for the support of teaching and research assistants, thereby extending the support available from other sources. Therefore, we urge the Graduate Council to examine this possibility.

Another aspect of the situation of teaching assistants that needs consideration is their loss of benefits because, according to the students with whom we spoke, they are treated as faculty members in this respect. We did not have much opportunity to pursue these matters further but suggest that problems also exist in accessing to computers, parking, etc.

The Research Advisory Council

Like the Graduate Council, the Research Advisory Council is feeling its way toward the definition of its role during and after this transition period. Its three meetings have been well employed in considering priorities, including the provision of incentives to the faculty to increase the amount of research being done, patent policy and "seed" money for research. And, again, as in the case of the Graduate Council, the exact relationship between the Senate's Committee on Research Grants and Publications and the Research

Advisory Council remains to be defined. Patent policy is being reexamined and it may require the University to alter its approach considerably.

Conclusions

Responsibilities of the State of West Virginia

This experience of recent years clearly suggests that neither the benefits a major research university could return to the state, nor the scale of the investment that is required to build such an institution, are widely recognized in West Virginia. By contrast with states such as Wisconsin, North Carolina and Michigan, where research universities built by public funds are understood to have made enormous contributions to their states, both the value and needs of a graduate and research university are too little appreciated in West Virginia.

Only if there is a much deeper awareness of these potential benefits will West Virginia University be able to fulfill its distinctive mission. Hence, our first main recommendation is that the University vigorously pursue its current efforts to interpret the value and needs of a graduate and research university to the Legislature, to the new Chancellor, members, and staff of the Board of Regents, to industry, labor, and other organizations, and to the general citizenry of the state. As the University makes important research gains, of which at least some are strongly relevant to the needs of the state, it will have an excellent story to tell. Every effort should be made to get this story out — by using the Committee of 55 in every county of the state, by bringing the Extension Service (itself a prime symbol of the values of fundamental and applied research) closer to the University and broadening its mandate beyond the traditional agricultural terrain, by creatively targeting material to the press and broadcast media, and by arranging special exhibits and programs for alumni and other visitors to the campus on the great public occasions of football and basketball games and at other times during the year.

Since resources — to equip laboratories, to teach graduate seminars and support doctoral research, to allow the faculty to do research as one of its assigned roles — are so much the key to building a strong research university, it is essential that those who

regulate the flow of these resources understand that the public's investment in such an institution must exceed, on a per-student or other standardized basis, what is required to operate a four-year or two-year college. The experience of other states shows that only if those in the Legislature and the boards governing higher education accept and act on this fact will they succeed in building a strong graduate and research university. It is equally clear that false appeals for "equity" in the funding of educational institutions with very different missions can do great harm to the major universities and severely limit their value to their states.

For this reason the structure of the boards governing higher education is important. If a board that is responsible for two- and four-year colleges also is given authority over the only comprehensive research university, it should keep in mind the unique financial needs of the research university since its value to the state flows from a program that is inherently more expensive to build and operate. The research university should be viewed as an investment that will attract funds to the state as well as providing for the education of its citizens and the betterment of their quality of life. The research enterprise must be recognized for what it is—a major undertaking to increase knowledge and improve technology and service in all fields. It is certainly not an esoteric appendage to an undergraduate education: rather, it nourishes and makes possible the latter, just as research and graduate education are supported and stimulated by the baccalaureate process as part of the seamless web we call higher education. Until these interrelationships are appreciated and the necessary support provided, West Virginia will have underutilized one of its most important resources and handicapped its own future.

Responsibilities of the University in Furthering Graduate Education and Research

While this report has underlined the serious need for more state resources to be allocated to WVU, the University bears its own burden of responsibility. It cannot be all things to all educational functions and it must make choices as to which graduate programs it will encourage to develop further, while cutting back on others. An excellent beginning toward defining these priorities has been

made in the implementation of graduate program reviews, which are well begun. A strategy of reallocation requires the support and understanding of the faculty so continuing communication and discussion between the latter and members of the Administration are essential.

The University needs to look beyond the present effort to review and prune its graduate programs. It is equally important to be alert to new opportunities for graduate training as these emerge from the development of the institution. The psychology should not be only that of a "hit" operation designed to close weak programs. It ought also to be one of recognizing new needs and opportunities that lead, selectively, to the creation of new programs. Some of these opportunities will be interdisciplinary and will involve widely separated parts of the institution. Here the Graduate Council and Office of the Vice President for Academic Affairs, with a view that transcends individual schools and colleges, have an especially important role to play.

The University's efforts to develop mission-oriented research to meet the needs of the state will create some opportunities of this kind. A research program on transportation, fossil fuels, economic development or the use of wood products will almost certainly need to be interdisciplinary in character. As strong advances are made in developing the more integrative models needed to attack such problem areas, they will at times create new opportunities for master's level, and perhaps even doctor-level, instruction. Moreover, exploring these curricular possibilities will help to link the disciplines in a research context, since the experience of other institutions so often shows that instruction is a more neutral ground than research for melding the several disciplines that must be brought together if interdisciplinary research is to succeed. The recent structural changes in the University will give a clearer insight into these parallel opportunities, since responsibility for both graduate instruction and research is now so strongly centered in the Office of the Vice President for Academic Affairs.

In addition, increased external funding of research is essential and we are concerned that there has been a reduction in such support recently. Although this report acknowledges the central responsibility of the state for the chronic underfunding of WVU,

there are things the University could do. For example, there should be a systematic attempt to gain financial support from foundations, industry and businesses for faculty support, research and equipment needs. Some of this is being done through, for example, the establishment of six Distinguished Professorships funded, in part at least, by grants from the Claude Worthington Benedum Foundation. This initiative and the provision of incentives to those who bring in research grants ought to be continued and extended. And, "seed" money is badly needed to encourage research by faculty members who do not have grants but are intending to apply once some results can be obtained. We should emphasize that all of this will take time and money but if more external grants and contracts are obtained the entire University will benefit, as well as the state.

Panel Members:

Alfred S. Sussman
Donald Stokes
W. D. Whitehead

Panel Report on the College of Human Resources and Education

SUMMARY

1. In general, the College of HR&E should make a basic commitment to professional studies and the preparation of professionals that is reflected in mission, programs, organization, degrees, scholarship and service. The right model for colleges of education and human resources is one oriented more to the needs, tenets and applications of a profession than to studies in the arts and sciences or "pure" research.
2. Changes in ways of life require redefining society's needs for human services and reviewing how responsive current programs of human resources development are. Such a reexamination might suggest broadening the College's scope beyond schooling to nonformal and informal education.
3. As a means of improving pre-service and in-service teacher education the College should consider developing "key schools" in collaboration with surrounding public school districts. These teaching/learning laboratories could provide a setting for College researchers to design, develop and field test alternative pedagogical methodologies, and for future teachers to learn firsthand new teaching techniques.
4. The College should develop professional programs in the field of teacher education by:
   - determining points in the academic calendar year when accepted applicants may begin the program;
   - establishing entrance requirements and selection procedures; and
   - defining the scope, nature and length of the professional curriculum.
5. The College should reduce the miscellaneous array of courses and degree programs offered off-campus for teachers and administrators in the field.

6. A comprehensive professional curriculum should include:
   - a disciplinary grounding in the social, behavioral and organizational management sciences;
   - multi- and interdisciplinary team-taught seminars which bring together the perspectives of both the academic disciplines and the practitioner; and
   - field experience in a key school.
7. After a period of experimentation with the new curriculum and projection of teaching salaries, the University should decide whether the professional curriculum will be:
   a) fully undergraduate, based on two years of general education and two years of professional education leading to teacher certification;
   b) fully graduate, based on a normal undergraduate curriculum in general education and two years of professional education leading to a Master's Degree, or
   c) a middle alternative combining three years of general education and two years of professional education, leading to a postbaccalaureate professional certificate, such as the Bachelor of Education Degree the Canadian universities once offered. The University should seriously consider creating such a five-year professional degree (Bachelor of Education, or Bachelor of Teaching) combining general and core professional studies. This step would allow a Master of Education program to focus on specializations functionally related to practices in the field (teaching, counseling, special education, early childhood, etc.).
8. The University should reserve the Ed.D. Degree for the advanced preparation of professionals in a few job-related areas such as master teachers or educational administrators at the district and local school levels.
9. The College should phase out its current educational administration program and, working with selected school districts, phase in a new Ed.D. program targeted to preparing master or head teachers in the schools.
10. The College should reorganize its programs, from traditional disciplinary core areas (such as educational psychology, educational philosophy, history of education, etc.), to areas func-

tionally represented in the field (teaching, administration, etc.). These new program areas should be staffed with faculty in both the relevant academic disciplines (history, philosophy, etc.) and the faculty and clinical personnel normally identified with these professional program areas (professors of instruction, curriculum, administration, etc.).

11. The College should create an administrative office to manage student recruitment, selection, admission, monitoring, graduation, placement and alumni relations.
12. The College should form a teaching alumni organization in order to establish relationships with schools.
13. The College should consider creating Ph.D. programs to be offered jointly by the College and relevant academic departments. Students would be securing the Ph.D. in such foundation fields as history, philosophy, psychology, political science, sociology, etc., with specialization in the history or philosophy, etc., of education.

COMPLETE REPORT

Introduction

This report is not designed to address the topics included in the Table of Contents of the HR&E Evaluation Subcommittee (May 15, 1983). Nor does it make any effort to note points of agreement and disagreement with that report. At the same time, however, the two reports come together at various points and a comparison of the two reveals both agreements and disagreements. I do not think it is my role to argue for one or the other. I leave the process of comparison, synthesis, reconciliation, and resolution to responsible persons at West Virginia University. Let me take special note of the fact that the data and descriptive material contained in the report of the Subcommittee were very helpful to me and made it possible for me to submit a comparatively brief report.

If the cycle following the launching of Sputnik in October, 1957, is repeated following issuance of the report, *A Nation at Risk* (which in many ways is serving as Sputnik, 1983), current focus on school improvement soon will include the role of schools and colleges of education. Conant's report on the American high school

in 1959 was followed in 1963 by his report on the education of American teachers. In anticipation of that cycle being repeated, the Cleveland Conference (representing largely policy makers in education) devoted its December 2-3, 1983, meeting in part to current signs of this repetition occurring. However, where Conant's concern and book were devoted only to teacher education, the renewal of interest is likely to include schools and colleges of education more comprehensively. At least two contextual differences between 1957 and 1983 suggest that schools and colleges of education may fare less well in the expected criticism than was the case previously. First, schools and colleges of education suffer from having much less support today from the education profession than was the case two decades ago. Second, universities are experiencing far greater financial difficulties today and are looking for ways to effect defensible budget cuts. The current rhetoric refers more to cutting out or cutting down the size of some existing units; across-the-board cuts are regarded as more likely to reduce overall quality and, therefore, are to be avoided.

In the late 1950s and early 1960s, the attitude toward educational improvement was largely one of tightening up there, toughening up here, and effecting an array of relatively modest reforms (the more radical recommendations for reform emerged later). There was nothing startling or world-shaking about Conant's proposals for teacher education. As he and I agreed later, they had more to do with closing out an era than with beginning a new one. Although the recommendations in *A Nation at Risk* are largely for tightening and toughening up, adding time and courses and the like, reforms recommended in subsequent reports (and in reports on the drawing board) are for much more radical changes. Indeed, some of the authors propose nothing less than a fundamental restructuring of schooling. It is my prediction that, although early signs of concern with schools of education and the recommendations will repeat many of the same old ineffectual bromides, later recommendations will cut much deeper.

My orientation in this report stems in part from the assumption that, with respect to schools and colleges of education, we are not operating with the right model. A more accurate diagnosis, perhaps, is that we are confused and vacillate between a model

oriented to the arts and sciences on one hand and to the tenets of a profession on the other. My clear bias for the future is that we move vigorously toward the latter.

The central dilemma to be confronted by schools and colleges of education is implied in two relatively recent and, I think, quite significant reports. One is Harry Judge's report on a dozen graduate schools of education prepared for and made available by The Ford Foundation. Six of those he studied were clearly graduate in character; the others were nearly so. The second is the report (mimeo) of a group of deans of schools and colleges of education. Dean Reinhard and some of her associates are very familiar with both reports.

Judge recounts the emergence of top-ranked schools of education as essentially research-oriented institutes. It was believed by persons taking the leadership role, as surmised by Judge, that an indirect but important benefit to schools of education would be their acceptance as communities of scholars within academic university environments. He creates two fictitious deans out of a composite of some of those with whom he talked. One is depicted as proudly stating to a campus visitor, "We don't prepare teachers. We just study them." Although Judge does not explicitly so state, he implies that the route of the major graduate schools of education has failed to gain the sought-for respect of colleagues in academe and, simultaneously, may have resulted in increasing the gap between schools of education and their several professional constituencies in the field. He offers no solutions. He leaves us with the dilemma.

The second, and much shorter, report presents a strong argument for research in education and especially research surrounding the teacher education enterprise. The report goes so far as to suggest that those institutions, for the most part small, that are unable to mount a research-oriented faculty of some size should go out of the business. Needless to say, personnel in small teacher-preparing institutions were outraged — especially those in private colleges with outstanding reputations. The irony of this second report is that a natural extrapolation of some of the recommendations appears to lead us ultimately to the dilemma of the major graduate schools of education as perceived and presented by Harry Judge.

Let me return to my own orientation and the perspective guiding this report. Three anecdotes and references illustrate both my concerns about schools and colleges of education and help provide a rationale for what follows. The faculty of the graduate school of education which I headed for sixteen years seriously debated the proposition that we cease preparing teachers and, instead, conduct a teacher education research laboratory devoted exclusively to the study of teaching and teacher education, and with future teachers included only to provide subjects of study. An affiliated faculty member (the school seconded 21 affiliated faculty members from other departments) from the School of Medicine was outraged and likened such an action to the preposterous possibility of the School of Medicine ceasing to prepare doctors.

The second anecdote involved Daniel Aldrich, Chancellor of the University of California, Irvine, who at one time was University-wide Dean of Agriculture. He expressed to me dismay over the research activity of faculty members in education. "How is it," he asked, "that you people go on and on studying bits and pieces of problems but never resolve them? For example, you have studied bits and pieces of the problem of teaching children to read, and yet the problem seems to have abated very little. In agriculture, we identify a problem such as that of certain insects destroying segments of the agricultural industry, and then we climb all over the problem with research and development until we eliminate it."

The third reference is to John Dewey's views on educational research. In one of his most eloquently stated directives for what is required, he said that those wishing to understand the processes and problems of education must immerse themselves in the phenomena. Only then do they retreat to the halls of academe in order to extend their inquiries and clarify their thoughts. Subsequently, they move back and forth between involvement in the phenomena and inquiry into them, testing the validity of their processes and their findings as they proceed. The models he proposed were quite unlike the paradigms researchers in the field of education have borrowed from other disciplines, especially from psychology, in seeking to advance knowledge about education.

In concluding this introductory section, let me explain, although not necessarily justify, my general omission of the "Human Resources" segment of the College of HR&E. The general omis-

sion is due in large part to my relatively brief involvement with the units of the College and my own limited background in the units not readily encompassed by the word "Education". However, I believe that many of my recommendations, if reapplied, have relevance to these other units. But, more important, let me say specifically and clearly that forward-looking colleges of education of the future must include attention to more than schools. Failure of the National Commission on Excellence in Education, for example, to recognize alternatives beyond schooling created for the welfare of the young may have contributed to their recommendation that the length of the school day be increased. Some other countries are far ahead of us in considering education-oriented activities for the young other than formal education. Proportionately, the significance of schooling will decline in coming years in relation to the increased significance of child care, adult education, and especially formal education on the part of employed persons who combine programs of work and study. These developments suggest that the "Human Resources" segment of the College should not be eliminated and perhaps not even moved out of the College to exist subsequently in juxtaposition with units now organized elsewhere on the campus. It is highly important that some major college of the University embrace comprehensive attention to formal, informal, and nonformal education of the young. What is called for, then, is a fundamental rethinking of this component of the College of HR&E with a view to aligning it more precisely and coherently with emerging demographics with respect to families and, especially, with areas of anticipated growth in education-oriented segments of our society.

The Preparation of Teachers (Pre-Service)

Any reasonably comprehensive set of goals for schools implies the development of a wide range of intellectual, social, and personal behaviors and, for high school students, attributes pertaining to work and earning a living. It is clear, also, that proficiency on the part of students might be expected to arise in large part out of pedagogical procedures geared to more than the mere rote learning and recitation of facts. But findings from "A Study of Schooling," as reported in my book, *A Place Called School,* reveal that, on

the average, about 88 percent of all classroom instruction involves a minimum array of procedures related mostly to the development of low-level cognition and to relatively passive, rote types of learning. Although high school teachers, for example, have available to them more than a dozen pedagogical procedures, they concentrate primarily on lecturing, telling, and questioning the total class and supervising seatwork exercises. A very large proportion of classroom time is taken up with talk, and most of this is "teacher talk." Even in schools with ideal conditions with respect to the education of parents, parental support, student attitudes, student-teacher ratios, materials and supplies, etc., pedagogy is predominantly of the kind described above. Why?

Several likely hypotheses come to mind. First, teaching is perhaps the only profession modeled for the future practitioner from the time that individual is five or six years old. Future teachers observe, year after year, the kind of pedagogy just described. The teaching methods used in the professional preparation part of their university programs differ little from the teaching procedures used generally in colleges and in secondary and in elementary schools. It is not uncommon for a professor of education to lecture about John Dewey's steps in inquiry and to require the regurgitation of this information on a test, without any opportunity for the future teacher to observe or experience what John Dewey was advocating. Teachers teach as they were taught.

A major part of the teacher education program—that usually judged most useful by future teachers — involves placement in a classroom with a supervising teacher. It is not uncommon for supervisors of student teachers to tell those they supervise to forget about what they learned in their education courses; they — the supervising teachers—will teach the neophytes how to teach. If we believe that our schools are not doing a good job, why do we go to such lengths to assure that those now teaching will participate powerfully in the teacher education process? We assure perpetuation of the conventional wisdom. Where would medical practice be today if similar procedures had been followed in the preparation of doctors?

Next, the circumstances of teaching tend to support the limited array of pedagogical procedures described. Teachers teach

relatively large groups in small spaces. Rarely are other spaces available for procedures such as having students work together in small groups. Order, discipline, and quiet tend to be regarded as virtues for classrooms. The circumstances under which teachers teach nicely support orderly procedures of lecturing, questioning, reading textbooks, and the like. The cards are stacked against more innovative procedures.

We should note, also, that in-service activities for teachers — or so-called staff development — tend to focus on improving what teachers now do. Teachers leave their schools and classrooms to listen to lectures and the like in institutes and workshops frequently lasting no longer than part of a day. These experiences do not change the way teachers teach. They teach after such in-service education activities very much as they did before. Staff development appears to reinforce, not change, the status quo.

Schools and colleges of education cannot be held solely responsible for this failure of professional education to transcend the conventional wisdom thoroughly imbedded in ongoing practice. Rarely today are laboratory schools attached to teacher-preparing institutions. And, even if they were, most schools and colleges of education prepare far too many teachers to be accommodated within the limited facilities of a campus laboratory school. This situation is quite unlike that of medical education, where the current class of future doctors is sufficiently small to be accommodated within the university hospital.

But it becomes clear that the nature of professional preparation of teachers is unlikely to change unless and until future teachers gain actual experience with alternative approaches to pedagogy in settings created specifically for this purpose. I recommend, therefore, that West Virginia University enter into agreements with nearby school districts for the development of alternative schools. For want of a better word, I shall call these "key" schools. We already have had experience in various parts of the country with alternative schools such as magnet schools, schools for the gifted, schools for the arts, schools emphasizing science and mathematics, etc. Why not alternative schools deliberately created for the design and development of alternative pedagogical practices based on the best scholarship available? The schools recommended would be

essentially laboratory schools maintained jointly by the school districts and the University. Public school resources would go into teachers' salaries, school maintenance, supplies and materials, and the usual costs associated with the education of children and youth. University resources would go into teacher education and a related scholarly effort pertaining to research and development in pedagogy. I am completely convinced that some of the most creative and imaginative teachers would be attracted to such key schools. Clearly, it would be very difficult for the administration of the school districts to propose that only the very best teachers be selected. Since the meaning of "best" has not been agreed upon, it is reasonable to suggest, instead, that teachers interested in such an alternative school would staff it. Every effort would then be made to identify teachers likely to be most comfortable and successful in the kinds of school settings envisioned.

The number of schools selected and developed should be the minimal number required for educating each successive "class" of future teachers. In the case of West Virginia University, it is reasonable to assume that the total number of persons to be prepared in each successive year will be reduced somewhat significantly from the present. I shall have things to say later about the need for West Virginia University to place considerable emphasis on in-service education of teachers and graduate studies. It is clear that several years will be required for the development of schools deemed exemplary in regard to pedagogy. These years provide a marvelous opportunity for professors in the College of HR&E to become involved with the schools and to turn their scholarship to the required development. The inquiry implied is significant and of the highest order. It should lead to publications worthy of a university and of considerable significance to the field. Thus, a matter of practical significance is turned simultaneously into a matter of worthy, scholarly pursuit.

In addressing pre-service teacher education, I am deliberately eschewing the issue of whether the preparation of teachers at West Virginia University should be entirely an undergraduate, entirely a graduate, or a combined graduate-undergraduate matter. To address this issue first is to give organizational preference to what initially must be settled substantively. Let me turn, instead, to some

matters which, when settled, will automatically answer the issue of undergraduate versus graduate teacher education programs.

First, I recommend that the College of HR&E gain early control of its student body. Currently, in regard to teacher education, there is not at West Virginia University (nor at most other universities) a class of '84 or '85 or'86 in regard to teacher education. Over a period of months, and sometimes years, students wander in and out of courses supposedly leading to teacher certification. The powerful process of socialization into a profession, so important in most professions, is never set in motion. Students are probably more interested and involved with completing their graduation requirements and their majors than with involvement in a professional preparation program. This situation must be changed, and it can be changed almost immediately.

The College of HR&E must determine a beginning entry point for all future teachers. If this were done, for example, during the 1984-85 academic year so that students entered a two-year teacher education program in the fall of 1985, the class of '87 would automatically be created.

Entrance requirements must be established during the interim. These would include not only academic prerequisites but, also, the possession of traits not likely to be very much modified during the ensuing two-year period. No professional curriculum should admit students lacking traits deemed desirable but unlikely to be adequately addressed in the ensuing curriculum. This means that students must be selected who already possess what is deemed important but unlikely to be taught.

The foregoing principle provides the College of HR&E with the opportunity to select students who already possess or are close to possessing the subject matter background deemed essential to their teaching goals. Society tends to blame schools and colleges of education for the subject matter deficiencies noted in teachers. But schools and colleges of education do not teach mathematics or English or biology. This teaching is done elsewhere in the university. Consequently, the College of HR&E has a perfect right to require the necessary scholarship at the time of admission with, perhaps, some additional courses still remaining and to be included with the professional component of the preparation program.

If there is to be a class of '87, for example, then during the interim the faculty must define the nature and length of the professional curriculum. It is not my responsibility to prescribe this. I must note, however, that teacher education focuses almost exclusively on the individual. However, teachers teach in a social institution, a place we call school. Even when schools possess severe problems, highly disruptive to learning, rarely do the principal and teachers, together with the students and parents, address these problems. Indeed, our data show that few schools have an agenda focused on their own problems. The teachers we studied told us that they rarely were involved in identifying and solving schoolwide problems. Preparation for this must be part of the professional preparation of teachers. It is not now. I must note, also, that, in the area of understanding students as individuals, exposure to educational psychology is not sufficient. There is now a considerable body of knowledge about human beings embraced by the behavioral sciences. Teachers need to be exposed to a substantial part of this.

The professional curriculum will involve, at a minimum, comprehensive exposure to the behavioral sciences relevant to individuals and institutions, a seminar extending over a considerable period of time (for high school teachers) involving pedagogy in a given subject field taught jointly by professors in these fields and appropriate professors of education, and experience as a junior member of the faculty in a key school under joint supervision of the faculty of that school and the faculty of the College of HR&E. In my judgment, the minimum length of this curriculum is two years. If it is to be completed entirely at the undergraduate level, then it means that we must content ourselves with two years of general education and two years of professional education at the undergraduate level. I question this as the proper solution. The second alternative is three years of general education, followed by two years of professional education leading to some kind of certificate beyond the baccalaureate. Canadian universities, at one time, offered the Bachelor of Education Degree, which represented a year of professional study beyond the Bachelor of Arts or the Bachelor of Science Degree commonly given by universities. I believe this to be most commendable practice. We went a different route and

offered, mistakenly I think, the Master's Degree for this additional year of study. The third alternative is a normal undergraduate curriculum in general education (with perhaps some courses in Education offered as a field of study rather than a professional curriculum), followed by a two-year professional curriculum for which the Master's Degree would be offered.

The answer for West Virginia University depends in part on the market for and salary levels of teachers. I have grave doubts that a two-year professional program following the baccalaureate is financially attractive unless special scholarships provided by businesses and industries are made available. For the present, I believe I would opt for the middle alternative of the three: a three-year general education program, followed by two years of professional preparation. However, responsible persons at West Virginia University are in the best position to answer the question raised.

Let me conclude this section on teacher education with a few comments regarding follow-up of teacher education graduates. (And here my comments link up with the report of the panel on relations with schools.) Preceding recommendations imply more careful selection in the future of teacher education candidates and, concurrently, the implication that the teacher education program will be reduced in size. Given this intention of greater selectivity, the deliberate recruitment of candidates becomes more important than was the case in the past. I did not have time to acquaint myself with current recruitment, selection, guidance, placement, and follow-up activities. I believe that this flow of students, including relations after placement, should be coordinated under a single office and a single administrator in the College of HR&E. The degree to which careful attention is given to graduates once placed in part will determine the effort made by graduates to assist in the recruitment process. Also, the follow-up process provides an opportunity for the College to establish desirable relationships with an increasingly wide array of schools. In effect, the placement and follow-up process opens doors for entry of faculty members into the schools for the purposes of research and development. The panel on relations with schools recommended the creation and nurturing of a doctoral alumni group throughout the state and beyond, as appropriate. I recommend the creation of a parallel organization for all graduates of the West Virginia University teacher education program.

Although the preceding discussion and recommendations focus on teacher education, the principles and, to a considerable degree, the specific recommendations pertain also to the preparation of other professionals in the field of education. The C of HR&E simply must gain control of its student body, set entrance requirements, clearly define the professional curricula, etc.

Programs for Advanced Degrees

My perspective here is in keeping with the recommended orientation of the College of HR&E to professional studies and the preparation of professionals. Consequently, there is no place here for the Master of Arts and the Ph.D., although I have some things to say about the latter toward the end of the report.

Let me return to my earlier comments about the former use of the Bachelor of Education Degree as a professional degree following the B.A. or B.S. It may not be too late to move in this direction in the field of education. Given the nature of the focus on schools of education about to occur and the need for relatively radical solutions to long-standing programs, it is not unreasonable to assume that from 50 to 100 of the major schools of education in the country might get together to rethink the degree structure in the field of education. Let me assume for a moment that West Virginia University might be willing to take the bold step of offering the Bachelor of Education or the Bachelor of Teaching Degree on completion of the teacher education program. As stated in the previous section, I prefer a professional program beginning in the senior year and continuing for one year after completion of the baccalaureate, given the present salary level of teachers. A Bachelor of Education or Bachelor of Teaching Degree at the end of this five-year program, combining general and professional studies, would somewhat parallel what occurred in the field of Law. And the launching of a program with such a degree, especially if some fellowships were attached, might inaugurate a new trend in the field.

Continuing with this assumption, the role of professional Master's Degrees also would be clarified. The Master of Education Degree would then be used to denote some form of specialization (counseling, special education, etc.) beyond regular preparation to teach. The College of HR&E would proceed to define the profes-

sional programs to be offered — all functionally related to practice in the field — and this degree would constitute the offering for in-service teachers already certified to teach. The Master's Degree in Education would take on a new significance as preparation for special roles in the field, including that of the career teacher who normally would not go beyond this degree and would do so only to prepare for some kind of "head teacher" or "master teacher" role.

I shall refrain here from any extensive discussion of current proposals for higher salaries for "master" teachers. I am uneasy about most of the current recommendations. They lend themselves too much to inappropriate evaluative roles for school principals and to the danger of rewarding persons whose only claim to special recognition is seniority. Deviations from regular salary schedules should be based on both advanced preparation for head or master teacher roles and actual placement in such positions of responsibility. We already have experienced the wide-scale, inappropriate use of graduate studies in the field of Educational Administration. Literally thousands of teachers have taken Master's Degrees in Educational Administration, received higher salaries on the basis of such degrees, even while continuing to teach, and perhaps never moving into an administrative position. This sort of thing easily could happen again as a result of some of the recommendations now coming forward.

I believe that it is absolutely essential for advanced preparation, actual placement in the position for which formal preparation was gained, and additional pay for both preparation and the placement to coincide. For any one of these three conditions to be absent is to corrupt the entire effort to take the "flatness" out of teacher salary schedules and reward able people who will receive higher salaries for more advanced preparation and actual performance of the job.

I recommend, then, that the College of HR&E reserve the Ed.D. Degree exclusively for the preparation of advanced professionals in a carefully-selected array of areas that match actual practice in the field. I shall confine myself here to this concept only as it applies to two such job areas: master or head teachers and educational administrators.

It is becoming increasingly apparent that teachers are only minimally prepared for the demands of teaching in the schools. I already have referred to the limited array of pedagogical techniques generally in use, especially at the high school level. It is apparent, also, that large numbers of students pass through the school with learning deficits resulting from their failure to master work at earlier grade levels. Increased use of proficiency tests and the like probably will result in more grade repetition and some increased attention on the part of teachers to specific grade-level requirements. However, these measures will do very little to increase the competence of teachers in such matters as diagnosing learning disabilities and prescribing adequately for them. Large numbers of students pass out of the primary grades with only limited skill in reading simply because their teachers were unable to recognize their deficiencies and prescribe corrective measures. We need teachers who are much more highly prepared in understanding children's quantitative and linguistic development, for example, and in both diagnosing and remedying difficulties.

As I have stated earlier, however, it is quite unlikely that this nation will so increase the financial resources for schooling that the decision to become a teacher will warrant the length and breadth of a professional preparation program sufficient to meet problems such as those identified above. But it is not unreasonable to assume that financial provision can be made for one such highly qualified teacher in a team of four to six teachers. Let us assume, for example, that one of four teachers assigned to four primary classes embracing 100 children possessed the requisite preparation, was designated "head teacher," and was paid a higher salary in line with this advanced preparation and additional responsibility. It is from this kind of thinking that I have derived the concept of "head teacher." Donna Kerr in her superb but depressing analysis of the decline in academic quality of those entering and staying in the teaching profession recommended that several major schools of education address the problem by creating doctoral-level programs for the preparation of master teachers (see Spring Issue, 1984, *Teachers College Record*). I recommend that the College of HR&E launch such a program for a small and carefully-selected group of

candidates for the Doctor of Education Degree. The University should seek fellowship stipends from philanthropic foundations, business and industry, and the like in order to support at least some of the candidates.

Models for what is recommended are practically nonexistent. It could be argued that few, if any, schools of education possess the human resources for mounting an adequate curriculum. This may be true. But professional programs tend to follow the identification of need; ultimately, the problem becomes not one of providing the necessary curriculum but of selecting carefully out of too many alternatives. Once again, the same principles of selection and control of student body, delineation of understandings and skills required, etc. apply. My estimate is that approximately two years are required to plan such a program and recruit students, but the important decision is the resolution to begin.

Programs for the preparation of school administrators suffer from many of the same defects identified for programs in teacher education. Teachers with a desire to become administrators but not necessarily possessing the prerequisite traits drift into such programs, a course at a time, thanks to evening and off-campus offerings on the part of the university. Ultimately, schools and colleges of education, in collaboration with public school districts, must develop selection criteria and work toward the selection of individuals now in schools who appear to have leadership potential. The current way in which school principals, for example, are selected is virtually a national disgrace. A vacancy occurs; there is a list of persons possessing the administrative credential; and a teacher is plucked out of the classroom in June in order to begin work as a school principal a few months later. Very few districts have an identified pool of individuals who already have passed initial screening and who already have been selected for and completed the relevant preparation program. To repeat, universities and school districts must work together for the elimination of this piece of sloppiness.

As for teachers, cadres of prospective school administrators (principals and superintendents at all levels) must come together as a "class." The socialization process involved in being an administrator is not addressed when the focus of preparation is on the indi-

vidual alone. The most outstanding preparation programs are those which have deliberately selected a cadre of people and placed them together in a variety of learning experiences, which they share in an intellectual and fully professional way. It is time to bring order out of this slip-shod process.

Consequently, I recommend that the College of HR&E phase out present programs for the preparation of school administrators and phase in (over a period of two or three years) a new program with target groups clearly identified, admissions requirements specified, with selection procedures established in collaboration with cooperating school districts, and with a curriculum clearly identifying the full program leading to the Doctor of Education Degree. It is in this area that West Virginia University, through its College of HR&E, can make a unique contribution to the State of West Virginia and, indeed, to thinking and practice in the area of advanced professional preparation for educators.

It is not for me to identify the programmatic areas for which the Doctor of Education programs will be specified and offered. I have identified what I believe to be the two most essential areas. One or two additional ones might well be added.

Implications for Organizing the College of HR&E

It may not be clear that what I am recommending calls for a fundamentally different pattern of organization for the College of HR&E than usually exists in universities. If the implications are followed through to their logical conclusion, there will not be, for example, the common departments such as educational psychology, educational philosophy, or history of education, etc., although there will continue to be such persons on the faculty (and, indeed, perhaps even more of them). The conventional departments, which tend to be modeled after departments in the academic disciplines rather than in professional schools, will be eliminated and replaced by programs such as those I have identified for teacher education, master or head teachers, administrators, and the like. Professors in the various fields of education will be allocated to these programs in the light of the need for them as defined by the curriculum. A department of educational administration, for example, rarely em-

braces all of the specialized academic personnel required to mount an adequate program in this field. There is a need for economists, political scientists, sociologists, and others who normally do not get involved at all in the preparation of school administrators. This kind of need was recognized long ago in forward-looking graduate schools of management when this entire professional field was revolutionized through the infusion of behavioral scientists into these professional schools. The same thing must occur in the field of education. Persons holding joint appointments in such fields as Psychology, Sociology, Anthropology, and the like should not do so merely to replicate under the name of educational psychology, educational sociology, or educational anthropology much of what goes on in Psychology, Sociology, and Anthropology Departments. Such individuals should work in a professional school or college of education for the purpose of contributing to the professional programs mounted by these units. With the College of HR&E reorganized into programs, with the curricular requirements of these programs clearly identified, it then becomes possible to identify the academic and clinical resources needed to conduct the program effectively. Clearly, much of it needs to be conducted in collaborating schools, such as those identified earlier as key schools. Persons in these and other schools and in the central administrative offices of school districts should enjoy part-time or brief full-time clinical appointments in the College of HR&E. Similarly, professors in political science, economics, and the various behavioral sciences should enrich the resources available in the College of HR&E in the conduct of the program specified. Such affiliations in no way reduce the authority and autonomy of the College of HR&E. Rather, they enrich and strengthen it by tying it to the academic departments and other professional schools, on one hand, and to the profession of education, on the other. As I stated in the introductory section of this report, most schools of education have fallen between the two and have support from neither the rest of the campus nor the profession of education.

Are there not to be, then, doctoral programs in the history of education, for example, designed to clone the professors in such a field as has been the case for decades? This is not my position but, once again, I recommend a sharp break with tradition. It must be

recognized that almost the only vocational outlet for persons with the doctorate in such fields as the history and philosophy of education is appointment to a school or department of education as a faculty member in this field. Scarcely any such positions are opening up; the current supply far exceeds the demand, and this will be the case for years to come. Consequently, the time has come to approach the problem differently, during this period of oversupply, in the hope of ultimately producing a very high quality individual in such foundation fields.

At some time in the future, then, the College of HR&E might well initiate exploration with relevant departments for purposes of considering offering the Ph.D. in the foundation fields. It is my recommendation, however, that all such Ph.D. programs be created and conducted jointly by the College of HR&E and the relevant academic departments. Essentially, students would be securing the Ph.D. in history, philosophy, or other foundation fields with specialization in the history or philosophy, etc., of education. A very small number of courses specifically designated as educational history or philosophy would be cross-listed in the College of HR&E and the relevant departments, and the dissertation would be supervised by both. This is very much the pattern at such institutions as Harvard and Columbia, where the Ed.D. is the degree offered exclusively by the Graduate School of Education in the case of the former and Teachers College in the case of the latter, and the Ph.D. is a joint offering under the jurisdiction of the graduate dean.

For the present, the College of HR&E will have its hands full in selecting students, designing programs, and the like, if the foregoing recommendations are implemented. No great service would be rendered American education by creating the Ph.D., as described, at this time.

Scholarly Activity and Service

Foregoing recommendations have clear implications for the teaching and professional activity of faculty members. The implications for scholarship and service may not be quite so clear, but they follow naturally from what has been recommended. In opening para-

graphs, I cited two anecdotes and a reference to John Dewey in order to provide an orientation for appropriate scholarly activity in the field of education. Scholarly inquiry simply must turn its attention to the educational phenomena surrounding and inherent in the programmatic commitments of the College of HR&E. In other words, professors study such things as the reorganization of schools so as to provide a team of teachers under the direction of a head teacher. Professors become involved in developing assessment techniques from which key schools, for example, develop their agenda. Professors study the degree to which graduates of the proposed teacher education program actually are well prepared for the tasks they face after placement. And professors do study the persistent problems of learning encountered by students, teachers, head teachers, and administrators in the schools. In other words, scholarly work is addressed to the phenomena of the field, just as Dewey recommended in the late 1920's. It appears to be so appropriate that what is being recommended here by the natural work of scholars in the field of education. And yet, so very many of us have so imagined and reconstructed the phenomena and then tried to fit them to paradigms from other fields as to produce a body of literature read largely by those who produce it rather than by those for whom it was intended.

I want to reiterate here a recommendation of the Panel on Relations with Schools. We recommended a reduction in the miscellaneous array of courses provided off campus for teachers and administrators in the field and a simultaneous increase in workshops and institutes designed to familiarize educators with research and exemplary practice relevant to their jobs. We begin to see here the real possibility of teaching in defined programs, scholarship, and service being integrated in the person of individual faculty members in very promising ways.

Many of the foregoing recommendations depart from tradition and demand new ways of behaving which perhaps will be threatening to faculty members. Many of the problems and issues I have identified are not now in the public domain. Most critics of schools and colleges of education believe simply that they do an inferior academic and intellectual job. Such a belief does not begin to lead us to the critical problems, nor to solutions. As the center

of criticism more and more turns to schools and colleges of education in coming months and years, more and more people will become aware of the seriousness of the problems faced by colleges and schools of education and the need for more radical reforms than have been recommended in the past. Consequently, it would be the better part of wisdom for a forward-looking College of HR&E to take the necessary steps now, even though the ground to be plowed is ill-defined and rocky. Schools and colleges of education that hold back, retrench, or become defensive are those least likely to fare well during the period lying ahead. I hope that the College of HR&E at West Virginia University will be one of those taking the lead.

Summary of Recommendations

The following recommendations should not be dealt with out of the context in which they appear in the foregoing. They serve only as a brief summary and, to some degree, an index.

1. The first recommendation is that the College of HR&E commit itself exclusively and wholeheartedly to a professional orientation in mission, programs, organization, degrees, scholarship, and service.

2. Although this report is confined almost exclusively to schooling, the College of HR&E should include within its scope attention to informal and nonformal education, as well as formal education.

3. Current commitments to what is now encompassed by the words "Human Resources" should be re-examined with a view to making such eliminations, reaffirmations, and new commitments as warranted by a very careful analysis of anticipated future needs in the areas of human services.

4. The College of HR&E should move vigorously toward the development of key schools, in collaboration with surrounding school districts, for purposes of creating and modeling alternative educational practices. In effect, the College ultimately will have available to it a small number of laboratory-type schools maintained by public school districts but enriched by University resources and personnel.

5. The College of HR&E must gain control of its student body in the field of teacher education by designating a necessary admission point and specifying the duration of the program required for graduation.

In line with the preceding recommendation, the College of HR&E must determine both academic requirements for admission and personal traits deemed desirable for teachers but not necessarily addressed in the professional curriculum.

6. The College of HR&E should plan a comprehensive curriculum based on an analysis of what teachers should know and be able to do and including cooperative teaching with faculty from appropriate academic disciplines, on one hand, and the infusion of outstanding clinical personnel from the public schools, on the other.

7. The University should not at this time make a decision as to whether there is to be a fully undergraduate curriculum leading to teacher certification, a fully graduate program, or some combination of undergraduate and graduate studies. This decision should emerge over time, after experimentation with the new curriculum and in line with the level of teaching salaries emerging during coming years.

8. The College of HR&E should create an office, if one does not exist already, to manage the entire student flow from recruitment, selection, passage through the program, placement, and alumni relations.

9. The College of HR&E should organize its teaching alumni into an organization paralleling the organization for doctoral alumni recommended in the report of the panel on relations with schools.

10. The administration of West Virginia University is urged to give serious consideration to the possible creation of a professional degree, probably the Bachelor of Education Degree, which would be awarded at the completion of the proposed teacher education program.

11. The College of HR&E is urged to use the Master of Education Degree exclusively for the development of specialized skills and abilities in teaching, counseling, special education, early childhood education, and the like.

12. It is recommended that the Doctor of Education Degree be used exclusively for the preparation of advanced personnel in a few carefully-selected areas paralleling major functions performed in the schools, such as master or head teaching and educational administration at the level of both the district and the local school.

13. The College of HR&E is urged to work with selected school districts—perhaps those in which the key schools are located—in preparing a very small group of head teachers for positions so designated in the schools. Such programs would lead to the Doctor of Education Degree.

14. It is recommended that the present somewhat casual approach to the preparation of educational administrators, as practiced in many schools and colleges of education, be replaced over a period of two or three years by a program which would deliberately select and admit cadres of persons who would constitute a "class" comparable to what is done in the field of medicine.

15. It is recommended that the College of HR&E be organized into programmatic divisions, one for each area of commitment to areas functionally represented in the field, such as teaching, administration, etc.

16. It is recommended that each programmatic division be staffed with persons in the foundation fields (history, philosophy, etc.) as well as with the faculty normally identified with such programmatic areas (professors of instruction, curriculum, administration, etc.), and that appropriate clinical personnel selected from the public schools be included on a part-time or short-term basis.

17. The suggestion is put forward that West Virginia University think seriously about a future Ph.D. Degree to be offered jointly by persons representing the foundation fields in the College of HR&E and persons representing the relevant academic disciplines, such as history, philosophy, psychology, sociology, etc.

18. A recommendation appearing in the report of the Panel on Relations with Schools is repeated here: Off-campus degree programs should be offered sparingly, if at all, and the service role of the College of HR&E should be expanded in the direction of making available to public school personnel the fruits of scholarship produced not only by the West Virginia University faculty but, also,

in any and all fields reflecting the functions and tasks performed by public school personnel.

19. A rather major recommendation is implied in the preceding narrative: The College of HR&E should join with other schools and colleges of education in advancing the recommended professional orientation and the departures from the past and traditions implied by this orientation.

Panel Member:

John I. Goodlad

Panel Report on Journalism

SUMMARY

1. The nation has more schools of journalism than it really needs, especially in the print and broadcast curricula. The likelihood is that nearly all tradional journalism education in the future will be at the graduate level.
2. Nevertheless, and notwithstanding, the School of Journalism at West Virginia University should continue to offer undergraduate programs since the University is the only institution in the state offering an accredited program in journalism.
3. The School of Journalism ranks, in the opinion of the chairman of the last accrediting team, in the "middle third of the accredited schools in the country, perhaps a trifle higher."
4. The Consultant rates the leadership of the School by the Dean as extraordinary; the faculty as ranging from reasonably good to very good; the student body as cooperative and impressed with the value of the educational opportunities; the location of the School as a disadvantage because of its remoteness to a major metropolitan area; the plant in its refurbished building excellent, and the equipment, except for VDT equipment in the news-editorial sequence, quite good.
5. The Consultant found that the undergraduate courses covered the appropriate range satisfactorily; the liberal arts and sciences content appropriate and adequate; and praised the School's use of diagnostic English tests, as well as the amount of time the faculty devotes to individual guidance and critiquing of students' work.
6. Concerns expressed centered on the "serious budgetary problem" resulting in low pay of the faculty, absence of sabbatical leaves, and the heavy overload which make it difficult to retain and recruit good instructors.
7. Concerning the present limited graduate program, the Consultant urges further study to determine whether it should be

strengthened or abandoned. He urges that it be considered in the light of the overall review of graduate programs at WVU.

8. The Advertising and Public Relations sequence should continue to be offered in the School of Journalism even though it has been proposed that Advertising could be transferred to the School of Business and Economics and Public Relations to the College of Arts and Sciences. Both sequences are appropriate fields for the School of Journalism.
9. Inasmuch as no other schools or colleges at WVU presently are named for individuals, it is suggested that consideration be given to shortening the name to School of Journalism and that a plaque be installed in the Journalism Building indicating that the School has been dedicated to the memory of the late Dean Perley Isaac Reed.
10. The Consultant recommends the designation of an Assistant Dean to aid the current Dean and to serve to "bridge the gap" when the present Dean, who has served 14 years, retires from that administrative post.

COMPLETE REPORT

In brief, the core programs in the Perley Isaac Reed School of Journalism are better, on the whole, than I had anticipated. The School deserves to be strengthened.

Background

There are, in the nation, probably more schools of journalism than are really needed.

This is particularly true in the print and broadcast curricula in traditional journalism. In the whole United States there are only approximately 72,000 individuals involved in reporting and editing *news* through broadcast and print media of all kinds. At the same time, a state like West Virginia probably has an obligation, from the standpoint of opportunities for its youth, to have offerings in traditional broadcast and print journalism and probably also in public relations and advertising.

Some day, many of us believe, nearly all traditional journalism education will be at the graduate level as a result of a process comparable to that which law schools have gone through over the

years. Behind that is the fact that a good journalist, once he or she gets above the level of reporting fires and police beats, should be a broadly educated individual, and this ideally involves a full substantial education in the arts and sciences. However, it will probably be many years before this is achieved in a number of states like West Virginia for the simple reason that the news media and the advertising and public relations organizations in the state are not paying nearly enough to make additional education at the graduate level feasible for most.

It should also be observed that there is really very little Grade A journalism in the State of West Virginia. A few news organizations do a fairly respectable job; some others don't even hire college graduates ("too expensive") for rank-and-file staff positions.

Also to be noted is the fact that, as in many state universities, a fairly large segment of the student body selects a journalism major instead of a history, political science, or home economics major without any clear aim of going into the profession. In the past, this has been particularly true among women students, who have often made up a majority of those majoring in journalism at the undergraduate level. However, national trends suggest that the proportion of students with non-professional aims will decrease in the years ahead.

Scope of this Study

In the course of researching this subject, I met twice with the top command of the University, including the President, with the Dean of Journalism, with the so-called Executive Committee of the School of Journalism, and with members of the University's planning committee. I also had three conferences and subsequent telephone conferences with the Dean of the School of Journalism, and had talks, in groups or individually, with some seven members of the faculty and with a small sampling of students. I have studied a sampling of student opinion. I have talked twice with the chairman of the last accrediting team who visited West Virginia University, with the head of the journalism accrediting organization, with an alumnus who has kept in close touch, and with several faculty members. I have also compared notes with other journalism educators.

Leadership

The Dean of the School of Journalism, Guy Stewart, is extraordinary. While most deans in comparable positions become fatigued and even bored after 10 or 12 years in the office, Guy Stewart appears to be carrying on with vigor and initiative after some 14 years on the job. He appears to be respected and liked by both faculty and students.

While the Dean's job is primarily a leadership and coordinating job among four separate educational programs, plus graduate programs, it is apparent to me that there should be an associate dean or an assistant dean even if it has to be a faculty member serving in this position on a very part-time basis. The purpose would be the obvious ones of having someone to substitute for the dean when he is away, someone to replace the dean when he takes a much-deserved vacation or leave, and someone ultimately to help bridge the gap when the current Dean retires.

Faculty

From my observations, conversations, and from the observations of the last accrediting team, the faculty on the whole rates as ranging from reasonably good to very good. A number of faculty members have won recognition in their specialties and hold positions on national boards and committees. Salaries are low — even as compared with those elsewhere in West Virginia University — and the average workload is heavy. As a result of this and doubtless as a result of other factors, the research and writing output of faculty members is extremely low.

At the same time it should be recognized that members of the faculty are generous with the time they devote to counseling students, partly because this is a custom in the School that has been greatly stressed by Dean Stewart. I commend this because there are few fields where individual critiquing, advice and guidance can be more useful than in the field of journalism.

Location of the School

It is easier, of course, to conduct a journalism education program in or near a major metropolitan area. Such areas provide oppor-

tunities for students to observe major professional operations and make it easy to recruit first-rate professionals for part-time instruction. The School at WVU has done fairly well at overcoming this problem by bringing in visitors, by maintaining working relations with professional organizations, and by other measures.

Student Body

From my chats with several students, with alumni and faculty and from observations at the big retirement dinner, it was evident that the students in the School of Journalism — and presumably throughout most of the University — were more cooperative, less "activist," and more inclined to value their educational opportunities than is true on most campuses. Minor reflection of this: in all of the Journalism building I found not one bit of graffiti or one bit of purposeful marring of University property.

Subsequent study of the survey material supplied by the University tends to confirm, rather convincingly, the impression that the student body in the undergraduate divisions of the Reed School of Journalism is unusual: very well motivated, grateful for the opportunity for higher education and less inclined toward grousing and rebelliousness than are many undergraduate bodies. They seem, to a large extent, to possess an eagerness that compensates for the less-than-ideal preparation that a number of them have had. The students seem to recognize that the faculty is reciprocating the undergraduate eagerness.

Positive Attributes of the School

In the School of Journalism two affirmative attributes showed up clearly. One was the large amount of faculty time given to individual guidance and critiquing for the benefit of students — much more than I have found in most other schools of journalism. The other was the School's use of what it calls its diagnostic English test. This seems clearly to have weeded out some of those grammatical basket cases who manage somehow to get into many other schools of journalism. It also appears to effect great improvement in students who are grammatically weak by forcing them into a non-credit remedial course. This properly recognizes that poor grammar has

often been the result of lax teaching or simple student laziness — and can be quickly overcome by a basically bright student.

Plant and Equipment

The refurbished building occupied by the Journalism School appears to be in good condition, providing space and facilities better than those in many journalism schools I have seen.

Equipment in some areas is very good. This is notably true in the photography courses and in the layout facilities provided in the advertising sequence. The broadcast-sequence equipment seems to be only fair but is in the process of being upgraded. The VDT equipment in the news-editorial sequence is out of date and in a poor state of repair, which seems to be virtually nonremediable. New equipment in this field is badly needed, since such equipment is now standard in most respectable newsrooms across the country.

Course Structure

Samplings of the undergraduate courses at the School of Journalism indicated that all of them covered the appropriate range in a generally satisfactory way. In the journalism and broadcast sequences, as in most such sequences in undergraduate schools of journalism, I would personally like to see a bit more substance injected, with wise professors (sometimes from other faculties) tracing the background and philosophies involved in some of the great issues of our day.

Location of Advertising and Public Relations Sequences

I found some views inside and outside the School that these two divisions were not necessarily located in the best place in the University. There was a feeling that advertising might more appropriately be in the School of Business and that public relations might be either in the School of Business or in the College of Liberal Arts and Sciences. A good argument, of course, can be made for putting both in the School of Business. However, if I were heading up West Virginia University, I believe I would leave both of them where they are now — simply because they get more attention from the top command of the School of Journalism than they probably

would get from the top command elsewhere and because they both add to the enrollment in the School of Journalism in a context where very small divisions often lose their identity and become part of some larger division of the university. From all I observed at West Virginia, I believe there are many good arguments for keeping the School of Journalism as a separate entity.

Graduate Program

Without making a detailed study of the subject, I found the graduate program (or, more properly, programs) to be open to some questions. The graduate instruction might be said to offer maximum flexibility to the student, tailoring the individual's program to his or her individual needs or wants. But another way of putting it could be that there is a great element of chance in the graduate programs. It would appear that a student's program depends to a large degree on what is laid out by the student with an individual faculty advisor — and by the amount of time and attention the individual advisor can give to the student. This, it seems, might be very limited in some cases where the faculty members are up to their necks in a heavy schedule in the undergraduate program, which seems clearly to be the heart of the School and the center of faculty attention. It appears that the great bulk of journalism courses open to — and required of — graduate students are courses in the undergraduate programs.

It may be significant that the departing Director of Graduate Studies in Journalism expressed doubts that there should be a graduate program in journalism at West Virginia University. He even questioned whether most of the graduate programs on the WVU campus should continue to exist. This reflected the view, quite clearly, that graduate programs in many departments had originated because it was considered prestigious to have graduate programs. In the case of the School of Journalism, I found evidence that graduate instruction does not receive all the emphasis that would be ideal. Beyond the single professor who is coordinating the graduate programs, I found those programs getting less faculty attention than would be desirable — simply because members are overworked with the basic undergraduate program. I was also surprised to note that the published list of members of the so-

called "Executive Committee" of the School of Journalism did not include the professor in charge of the graduate programs.

Given the tremendous range of options open to graduate students in journalism, a large measure of unevenness is inevitable. The graduate division now amounts, to as large degree, to a center for independent study. From it some students doubtless derive great benefits; others gain much less.

The problems, I infer, are not unique to the Journalism School; they undoubtedly exist in other divisions, particularly in professional schools where the main emphasis is at the undergraduate level.

To bring its graduate studies up to the level of its undergraduate programs, there is no one-and only course for the School of Journalism. I personally would lean to a limited range of studies in fields that this particular University is notably qualified to handle with distinction. One of these would be an advanced program in journalistic reporting and editing, with several courses developed for the purpose, along with the kind of major project now required. Another might be a program in advanced science reporting. However, I repeat that other answers might be quite feasible. A systematic study of all Master's-degree programs of a comparable nature would seem to be in order.

Minor Observation

This observer feels compelled to question the continued use of the long title of "Perley Isaac Reed School of Journalism." The title sometimes even makes it difficult to find the School in the catalog and other literature of the University. Without knowing the full background, I should say that I knew Perley Reed, was rather impressed by him as an educator and as a "character" and found there were then many West Virginians and a number of journalism educators who have warm spots in their hearts for him. At the same time, he is not one of the giants of journalism, and his name is now known only to a few senior educators in the field and a number of older graduates of WVU. I raise the question, without knowing all the factors involved, of whether it would be feasible to make the School of Journalism simply the "School of Journalism" and put up in the lobby of the building a handsome bronze plaque saying

that this school has been "dedicated to the memory of Perley Isaac Reed." The same words could be used in various pieces of printed material. Another option: call it simply the "Reed School of Journalism" and install the same plaque.

Conclusions

On the whole, the School of Journalism at West Virginia University is a good undergraduate school in its field. I concur with the general conclusion of the chairman of the last accrediting team who tells me that he considered the school of WVU "about in the middle third of the accredited schools in the country, perhaps a trifle higher." The School has a rather impressive history and background and seems in general to be living up to its traditions. The faculty at the present time ranks fairly well, but the School is encountering serious problems in recruiting faculty members to replace those now retiring or leaving.

Like many divisions of WVU, the School of Journalism faces serious budgetary problems. These are reflected in the relatively low pay of its faculty, the absence of any sabbatical leaves, the relatively heavy workload on faculty members and difficulties in recruiting faculty replacements.

It is highly unlikely that the budget problems can be solved by economies. Journalism education, particularly in writing and in broadcasting and to a lesser extent in advertising and in public relations, is labor intensive. Good education in these fields requires extensive individual critiquing, rewriting by the students and re-critiquing by the faculty.

At the same time, good education in journalism and related fields need not be and should not be a mass operation. The total professional personnel in these fields throughout the country is limited. (As mentioned previously, there are only about 72,000 individuals in all branches of news reporting, news broadcasting and editing.) Therefore, a relatively small amount of money could go a long way in raising the level of a school of journalism.

The leadership of the School appears to be good but will doubtless need to be replaced within the next few years.

The liberal arts and sciences content in the undergraduate curriculum compares favorably with that in many other branches

of the University, I am told by members of the University's planning committee. This partly reflects the high proportion of liberal arts and sciences required in the accreditation of journalism schools.

Given the obligations of a state university toward the youth in its area and given the importance of competent and honorable journalism at all levels of our society, I believe there is no question that the WVU School of Journalism should be continued and strengthened — and that the graduate program be subjected to a special study, along with other similar programs on the campus.

There is, of course, no money to spare in the University's current budget, but, whenever it becomes feasible, a minute subfraction of that budget could effect a great improvement in this very small but highly visible division of the University.

Panel Member:

Edward W. Barrett

Postscript

During and subsequent to the April 11th Program Report Conference, we learned of significant developments that seem in keeping with the draft report.

The commendable Diagnostic English Test has been improved further, in the view of school administrators, and is backed up by a new non-credit remedial course for those who "passed" but did not do well enough. Also plans are being made to institute this test for admission to the graduate program.

Dean Stewart reports that a new Director of Graduate Studies, John Boyer, with considerable experience in journalism education, has been appointed. He also reported that the School will be tightening up its admissions and redistributing duties to the point where "much more" faculty time can be devoted to the graduate program.

The Dean estimates that more than half of the faculty members will soon be giving at least 25 percent of their time to working with graduate students. He also says the School is well along in developing some concentration within the graduate program.

One course of study will be a program of advanced research and writing designed to bring the students to a higher level of professional proficiency.

Another likely track will be in the area of journalism and energy issues, including environmental issues. This is a field in which the University is particularly equipped to provide faculty guidance. A third advanced program may well be in the area of corporate communications within the public relations specialty. The Dean indicated agreement with our recommendation of limiting the range of graduate-level programs offered.

We are also assured that the school is about to create the post of Assistant Dean, which is in keeping with the recommendation of the report.

All of these developments appear to be in the right direction.

EWB

Panel Report on The Land-Grant University Mission

COMPLETE REPORT

Introduction

This report is intended to serve two purposes: first, to define the nature and mission of land-grant universities; and second, to apply this definition in the context of West Virginia University as it reexamines and redefines its role within the state.

The Land-Grant University: A Definition

A land-grant university is a *partnership* university initially developed through grants of land made by the federal government to the states and matched by state resources in order that our nation might establish a limited number of high-quality universities dedicated to promoting the welfare of both the states and our nation. There are approximately 72 such universities throughout the United States and its territories. They are distinguished by these key elements: they educate many thousands of a state's citizens directly within classrooms and laboratories and through informal educational programs; they undertake fundamental research, much of it applied to specific economic and social needs of a state and region; they literally reach out by providing public service in many areas of economic, social, and cultural need — ranging from the arts and agriculture and general education to such vital enterprises as health, engineering, forestry, and mining.

Above all else, a land-grant university is a university built upon a commitment by quality people — highly skilled faculty and staff — to serve both students and citizens so that they may maximize their fullest potentials in order to contribute to richer economic, social, and cultural lives within a state. Land-grant universities are proven vehicles through which the states invest in themselves and their future, thereby reaping direct economic and social benefits that strengthen both the quality of life and the economy of those states bold enough to pursue the future vigorously.

West Virginia University as a Land-Grant University

West Virginia University is *the* land-grant university for its state. WVU has historically done good work in serving West Virginia. But it could serve the state even more in the years ahead if its leaders recommit themselves to the proposition that it is in the fundamental interest of West Virginia to reinvigorate West Virginia University so that it can contribute even more positively to the economic and social needs of its state.

The critical ingredient is a mutual recognition between WVU and the government and people of West Virginia that they are partners in a common enterprise—the betterment of their society, their economy, and the general well-being of all West Virginians. To accomplish these beneficial ends, some specific commitments are required both by the state and WVU.

The State of West Virginia and Its Land-Grant University

West Virginia's leaders can dramatically serve their people's interests by accepting these challenges:

- Reaffirming the unique role of WVU as a land-grant university that is a resource of service to the entire state.
- Recognizing that prudent fiscal investments — put bluntly, adequate and increased state appropriations — are investments that will multiply the economic and social resources of the West Virginia community.
- Challenging West Virginia University to reassess and redefine its priorities in order to promote even closer linkages with the state's economy and labor.
- Challenging WVU to reassess its role in relationship to the other public colleges and universities in West Virginia in order, through collaborative undertakings, to provide imaginative, shared leadership.

The Challenge to West Virginia University

If WVU, a university that could serve West Virginia far more dramatically than it presently does if the resources for the investment were made, is to fulfill this land-grant mission, it in turn must challenge West Virginia to a new land-grant partnership. The agenda

for such a challenge can be met both because of WVU's historic strengths and the commitment of its academic leaders and faculty. West Virginia University must ask West Virginia's governmental leaders and citizens what *it* can do for them.

The elements for a successful response to this challenge include these steps by WVU:

- WVU must continue the selective budgetary decisions already underway. What is required are specific actions in which resources are reallocated, even where painful, from less essential programs to more essential programs, including, wherever appropriate, the elimination or significant reduction of those programs not vital to the needs of West Virginia or, alternatively, so weak as to constitute a drain on the resources of the total University. A response of this kind is an essential precondition to the emergence of WVU as an even stronger contributor to the well-being of its state and to the state's expanded investment of resources in the work of WVU.
- Education of undergraduate students through an admission process of openness to students of many backgrounds and diverse needs is a critical component of any successful land-grant university. One of WVU's established strengths is its strong undergraduate educational programs; these educate West Virginians and attract outstanding individuals to the state. The programs should be bolstered and strengthened to the maximum extent possible.
- West Virginia University should propose selected themes for economic development, on a partnership basis with the state and its business and labor groupings, so that WVU and the state can work together toward a strengthened economy — just as land-grant universities did in the early years of this century in agricultural development. This partnership can be furthered by WVU and the state joining forces not only in the traditional field of agriculture but in engineering, health, forestry, and mining. The unifying theme could well be economic and social development and could be accomplished by bringing together a coalition of business and labor and governmental leaders under the leadership of WVU's president and the state's governor.
- WVU as a unique and not fully utilized resource for West Virginia can better serve the state if its extensive network of agricultural

(county) extension agents can be more effectively integrated into the structure of the total University in order that the agents can work on agricultural needs along with the needs of the state in engineering, mining, and forestry.

- As part of its process of selective emphasis and reallocation of resources, WVU ought to identify one area in the humanities and arts and another in the social sciences that might be intensified and strengthened. The objective would be to reemphasize WVU's commitment to the general educational and cultural welfare of West Virginia and to remind all West Virginians that a university uniquely speaks to all of the needs and aspirations of the human spirit.
- WVU has the obligation to communicate systematically to all persons in the state the nature of a land-grant university in the specific context of what WVU can do better to assist West Virginia in meeting its economic and social objectives. Concurrently, WVU has an obligation, in collaboration with the other higher education enterprises in the state, to initiate proposals that facilitate the sharing of educational resources and programs to serve the needs of West Virginians.

West Virginia's Challenge

West Virginia University is a good university, characterized by hard work and the commitment of its faculty and leaders, joined by countless public-spirited citizens throughout the state. It *can* be an even more productive land-grant university on behalf of its state if it rises imaginatively to the challenges currently before it and *if* the leadership of West Virginia identifies a partnership based on mutual ideals for West Virginia. This partnership must be based on increased financial investments in WVU, and it must be equally based on hard work that will benefit the lives of the citizens of West Virginia in every educational way possible — which is itself the ultimate service mission of land-grant universities.

Panel Members:

C. Peter Magrath
John Toll

Panel Report on the Relationship of West Virginia University to the Public Schools

SUMMARY

The Panel emphasizes that this is a propitious time for West Virginia University, a comprehensive, land-grant state university, to strengthen its relations with the public schools, especially because national reports — such as that of the National Commission on Excellence in Education—are stirring interest in and concern about the schools in much the way Sputnik did in 1957.

The Panel commends the Dean of the College of Human Resources and Education and her staff for completing two inventories:

a) West Virginia University's outreach efforts to public schools, currently underway.

b) Needs and wishes of public school constituencies which reveal how educators and others regard services offered by West Virginia University.

The Panel emphasizes that American universities cannot ignore nor remain aloof from the present plight of the American public schools. In outlining how WVU should perform its legitimate role, the Subpanel offers observations and recommendations under three headings:

a) Transition from Schools to University

b) School-University Partnership Arrangements

c) The Statewide Leadership Role.

Recommendations

1. Establish The Office of University Admissions and School Relations headed by a Vice President.

2. Work with selected secondary schools to define the desired subject matter content and skills desired of entering students.
3. Establish an early talent identification program.
4. Establish a greater number and variety of college-level courses in the high schools of the state or otherwise accessible to high school students near their homes.
5. Establish one or more specialized or general residential high schools in collaboration with other universities and agencies.
6. Actively seek the support of philanthropic foundations for purposes of supporting school/college and school/university projects focused on school improvement.
7. Become actively involved with selected nearby schools in the development of models of both comprehensive, balanced, pre-collegiate curricula and alternative approaches to pedagogy.
8. Work collaboratively with these selected schools for purposes of developing techniques for assessing the ongoing condition of schools so that solid agendas for school improvement can be generated at the local level.
9. Concentrate an array of school-focused research and development activities on a few "key" schools which ultimately will become centers for school renewal and both pre-service and in-service teacher education.
10. Create the President's Forum and Deans' Forums for purposes of enlightening community-wide dialogue regarding problems and issues at all levels of public education.
11. Reduce off-campus course offerings for school personnel while simultaneously increasing outreach efforts designed to disseminate the results of research and development.
12. Make use of advanced technology in bringing to community colleges and small colleges via interactive videotape the very best teachers at West Virginia University.
13. Take the lead in creating a statewide consortium of universities focused on upgrading public education throughout the entire state.
14. Reach out boldly to solidify its position in advanced studies through the creation of an organization networking doctoral alumni for purposes of recruiting educators for the University's doctoral programs.

COMPLETE REPORT

Introduction

This is a propitious time for a major land-grant university to be looking into its relations with the public schools of the state. The Report of the National Commission on Excellence in Education, *A Nation at Risk*, is serving to stir interest in and concern about our schools in much the way that Sputnik did in 1957. Other reports of national scope have followed and more than 20 others, nearly all of them focusing on secondary education, are forthcoming. At the time of our writing this report, some 130 state-level commissions are at work drafting plans for improvement of elementary and secondary education. Much of this interest will fade away within a year or two and many of the current recommendations will go with this declining interest. School board members, highly commited citizens, school personnel, and university leaders will be left with the hard tasks of the fundamental reconstruction required. Various kinds of collaboration between precollegiate institutions and institutions of higher learning are central to a major part of this agenda.

It is noteworthy that the present interest of West Virginia University in strengthening its relations with the public schools is accompanied by an intensive examination of the University and its several units, involving both inside and outside Panels. The members of this Panel wish to congratulate the key administrators with whom we have talked not only for their farsightedness in general but, also, for their keen awareness of the importance of solid relations with the schools of the state. We appreciate, also, their availability and their openness to questions we have chosen to ask. Also, we want to congratulate those persons who so quickly and comprehensively, at our request, prepared two inventories relevant to our task, one an inventory of outreach efforts to public schools currently underway, and the other an inventory of the needs and wishes of the public school constituency. Dean Reinhard and those who worked with her deserve special praise for furnishing these very useful reports. The first of these documents indicates the extensive array of services already being provided. The process of gathering the data was useful to those involved, not only in provid-

ing insight into the nature and extent of these activities but, also, in revealing the considerable extent to which these activities are identified with individuals and may not always be seen in the context of a University-wide contribution. The second report reveals some of the extent to which individuals across the state, particularly educators, regard the University with appreciation and the extent to which many others view themselves as relatively untouched by it. Indeed, some see the University as somewhat removed and disinterested while still reserving considerable respect for what the University does and might do.

The process of self-study already has served to achieve some of the purposes for which this Panel was constituted. Consequently, our report will do more to reinforce directions already identified than to suggest entirely new activities.

A current thrust of West Virginia University—to be enlightened by the self-study—to some degree complicates and disciplines the intent to be closely aligned with the public schools. One dimension of this thrust is the service ideal of the land-grant university. The other is the knowledge production role of major universities. The University simply cannot afford to be of service simply for the sake of being of service. It must select carefully those things in which faculty members are to be involved so that scholarly productivity is not dissipated. Also, everyone involved on the University side must keep a keen eye to cost-effectiveness measured in part by the contribution of good relations to schools to recruitment of students.

Background

The American university cannot ignore nor remain aloof from the present plight of the American public school. Ample documentation exists of the problems faced by the public schools; a plethora of solutions and remedies has been cited by highly creditable national, regional, state, and local studies and investigations. Most everything that has been said nationally about the plight of the secondary school applies in West Virginia, confirmed at least in part by the Recht decision, the work of the Committee of 99, the new Master Plan for Public Education, the adoption of Policy 5100, the work of the Basic Skills Task Force and the creation of the

West Virginia Education Fund designed to involve business and industry in school improvement, to mention only a few.

Universities everywhere, and West Virginia University is no exception, have a major stake in the quality of public schools. The quality of schools can be traced back to the preparation of principals and teachers, to the usefulness of textbooks, to the limited expectations of students in admission to college and to the quality of research and service generally supplied by universities through schools, colleges and departments of education.

Similarly, universities are to a major extent limited in the attainment of their own goals by the quality and preparation of students they accept. While it has been said that the quality of the American high school will be increasingly shaped by the connections it makes with higher education and others, we would add that the quality of the American university will also be affected by its connections with the public schools. Public universities *are especially vulnerable* in this regard.

We believe a university has a legitimate role to play concerning the quality of schooling beyond simply the issues of transition of students to higher education. Schools, as the public's most visible evidence of what education can or cannot accomplish, are crucial in formulating public expectations for and opinions about the value of education and in turn shaping public willingness to provide dollar support. Working cooperatively with local schools is a highly constructive way for universities to demonstrate with great visibility their interests in the needs of all the people of a state and in working *cooperatively* with the people in meeting them.

West Virginia University can exercise its service leadership role more directly and to a larger number of persons in the state if it strengthens its connections with the public schools. For a variety of reasons this is true:

a) The quality of the schools in West Virginia is a very timely issue in the state.
b) The nature of the organization of schools in the state limits the ability of schools and districts to be self-sufficient.
c) West Virginia University has a relatively low college-going rate, currently ranking 44th in the nation in the ratio of students in higher education to the total population.

d) The unique survey conducted by CHR&E identified the need and desire of the schools for further support from West Virginia University. This survey, one of a very few of its kind in the nation, lends great credence to increased efforts by the University to establish meaningful school connections.

University aspirations to raise standards and requirements for admission will be thwarted unless there is significant support to the schools in the areas of current weakness.

West Virginia University is not unique in offering opportunities for constructive connections between the University and the public schools of the state. Throughout the nation there are emerging many such efforts which range from individual linkages between one institution and one school to large-scale initiatives involving many higher institutions and many schools or school systems.

Surveys have established that the approaches are many and varied. To our report we have appended two items of relevance:

a) An unpublished survey conducted for the College Board in 1982, listing 201 ways schools and colleges are involved in collaborative efforts, assembled at the request of Mr. Moon when he headed the Board's Project EQuality.

b) A description of the College and University Partnership Program for School Improvement currently operating in the State of Pennsylvania.

Also, in 1982 Mr. Moon directed for the Northwest Area Foundation a regional program to promote school-college linkages called "Cooperatives for Quality Education." This program requested proposals and subsequently supported 10 school-college collaborative efforts on the eight states of the Northwest. These projects had to do with curriculum improvement, instruction, personnel development, communications, assessment and placement, and preparation for postsecondary education.

The CHR&E has documented many examples of current and past activities in which that College and others in the University have provided support to the state's public schools. It has also begun the conceptualization of a proposal which would establish in CHR&E a School Services Unit to provide a center for the initiation of new efforts with regard to linkages with schools.

A survey of school-college linkages conducted by the Carnegie Foundation concluded that there are five essential steps in developing such projects:

a) Educators at both levels must agree that they, indeed, have common problems.
b) The traditional academic 'pecking order' must be overcome.
c) Cooperative projects must be sharply focused.
d) Those who participate in such projects must get recognition.
e) For school-college cooperation to work, it must focus on action, not machinery.

Any attempt to broadly characterize these projects is bound to overlook some of the more subtle goals and actual accomplishments. Those who enter this arena are best advised to work with their school counterparts to develop the agenda. From the survey, though, one finds that the majority of efforts are aimed at:

a) Establishing new definitions of academic standards.
b) Permitting students to move more flexibly from school and college.
c) Enriching the work of classroom teachers.
d) Strengthening education programs at the local school level.

Do school-college partnerships work? Even the strongest advocates of increasing school-college partnerships are unsure of the answer to this question since the evaluation of these activities — many of which are so new — has not been undertaken. Therefore, it is important for those who would enter the field to build jointly designed evaluation systems at the outset of their projects.

In undertaking initiatives which will bring West Virginia University in closer collaboration with the schools, there is a variety of factors with which the University must deal.

The county organization of education in West Virginia does offer the University a focus for negotiations with respect to initiatives. We understand that efforts are underway to strengthen eight regional support centers (Regional Educational Service Agencies) which would further centralize the focus for determining how the University might best use its resources and to set a collaborative agenda with districts and regions.

The Recht decision has succeeded in focusing a great deal of attention on the problems of the schools and as a result a Master Plan has been developed which many feel is unrealistic and utopian. Nonetheless, the State Department of Education's strength has been increased and local control of schools has been weakened. The University, in order to work more closely with schools, will have to build stronger links with the State Department. Also, the University's programs in teacher education will have to respond to Policy 5100 which increases testing for admissions, increases general education requirements, introduces subject matter tests, and expects candidates to demonstrate professional skill performance and basic academic skill competencies.

High unemployment in West Virginia may be expected to persist. As long as this is true, new resources for the schools and/or the University and for collaborative efforts may be hard to obtain. It would appear that private foundation help could be the most promising source of funding for new initiatives. There is also talk of new approaches to real estate appraisal but whether that offers much hope for additional revenue is very unclear to doubtful. The social/fiscal problems of unemployment present restraints which limit the undertaking of new initiatives which cost money.

Most people expect that small schools will persist and that the county form of organization will not be changed. Therefore, the strengthening of the Regional Educational Service Agencies is important in helping the University build links with the schools. The average school size in West Virginia for a school with a 12th grade in it, of which there are 151, is 637. One must keep in mind, however, that these schools may have 6-12, 7-12, 8-12, 9-12, and 10-12 classes. Small schools appear to have some advantages but student adjustment to the university often is difficult for students who attended very small high schools.

The Board of Regents up until now apparently has not been very interested in supporting University initiatives with the schools. Its recent involvement with the development of Policy 5100 indicates a change in this regard, since it was involved in this collaborative effort with the State Board of Education.

The coal-curtain has limited the University to a 33-county area in conducting initiatives with the schools of the state. We doubt

that such a limitation is in the best interest of all of the people of the state. The study done by the CHR&E certainly uncovered many areas where other regions of the state sought help and leadership from the University.

The University is probably sufficiently limited in faculty and dollar resources to make it difficult to undertake very many new initiatives with public schools unless there are increases in public funding, unless school systems can contribute to the cost of services, or unless there is an infusion of foundation or federal funding for such activities. We would suspect that at the outset the University might find more support through the foundation route. Also, the Pennsylvania model (mentioned earlier and described in the attached materials) might be a useful way to proceed. However, we would suspect that other institutions would want to be part of any such effort.

West Virginia University, as the flagship higher education institution in the state, is looked to for leadership *and* service in many areas. While universities of the caliber and prestige of West Virginia desire to increase their student and program quality and direct more of their resources and energies of their faculty to research, the public inevitably looks for greater access for students and more hands-on service with the real-life problems of the state, its communities, and its people.

West Virginia has more than its fair share of "state-community-people" needs. And unlike other states where there may be any number of major universities to lend a helping hand, West Virginia really has only one major institution which can deal with the more complex problems of the state.

We do not see "services" to be incongruous with the mission of an institution which seeks to strengthen its research orientation and urge that efforts be made at WVU to establish clearer recognition of the performance of service as part of the institution's reward system. Certainly in the area of school improvement, the University currently has much more to contribute through service than in the conduct of extensive research on schools and the learning process. It would be a serious mistake to leave with the schools of West Virginia the impression that the University's school linkage interest has its sole basis in furthering research interests of the faculty.

Transition From Schools to University

Historically, American public universities in their earliest days, dissatisfied with students' preparation for college, provided for the majority of their entering students the requisite academic preparatory work which qualified students for admission. In academies, usually located on their campuses, universities often offered the equivalent of three years of the current American high school to aspiring entering students.

Today, with few exceptions, preparation for college takes place for 90 percent of the students in the public high schools. What takes place or doesn't take place in the high school as college preparation has been a constant concern of American higher education since the academies were dropped in the late nineteenth century. It is true that this concern has "waxed and waned" — today action and anxiety about the work of the school in the preparation of students for college is at *an all-time high*.

In the main, higher education focuses its energies and efforts within the framework of prior completion of the high school. Taking the student out of the context of the high school before the time of normal graduation, while practiced on a limited basis and generally for only short periods of time, is still viewed as a great threat to the schools. While good results have been achieved with early admission programs, the majority of today's efforts are focused on improving the school's programs, offering advanced courses of college level in the schools, beefing up school faculty, and offering bridging programs which help abler students keep one foot in high school while trying out college on a limited basis.

West Virginia University has been generous in its efforts through scholarships to make college attendance possible for the ablest students in the state. On the other hand, the University has not taken the lead in improving the quality of educational preparation in the schools for college aspirants, except possibly in mathematics and then in only a very limited way. It is now "acceptable" for universities to become involved in such matters and we think the time has come in West Virginia for such efforts by the University.

Our sense is that the University, in establishing and maintaining relationships with the schools, may be well advised to see this

activity as having two distinct objectives. One set of objectives will be related to general school improvement K-12 with a substantial research component and a heavy pedagogical emphasis. Here we would expect the leadership to come from the College of Human Resources and Education. A second set of objectives would have to do specifically with subject-matter preparation of students for college in general and for West Virginia University in particular.

We would, therefore, recommend that the West Virginia University establish the Office of University Admissions and School Relations to be headed by a Vice-President. This office would include the functions of recruitment and financial assistance, but the registrar's functions would no longer be included. While substantially strengthening the University's recruitment efforts in West Virginia and elsewhere, this office would in addition assume the leadership role for the University in developing activities, programs, and services which involve the University directly in initiatives to improve preparation for college for high school students in general and for West Virginia University in particular.

With respect to special programs and projects in the area of school relations, we believe that the University should consider and take leadership in the following on a *statewide basis:*

a) The conduct of University/school dialogues to define the subject matter skills and competencies desired of entering students by the University. As an agenda, use the booklet, *Academic Preparation for College*, published by the College Board in 1983.

b) The establishment of a statewide project to assist students to improve their performance on the ACT and SAT examinations. Use as a model the program in South Carolina described in *Task Force Report: Improving Scholastic Aptitude Test Scores of South Carolina Public School Students*, 1980, available from the South Carolina Department of Education.

c) The establishment of an early talent identification program modeled after the work of Julian Stanley at Johns Hopkins and similar to programs now conducted by Duke University, Arizona State (Tempe), University of Denver, and Northwestern. These institutions will provide materials on request. Also consult the attached reprints from the *College Board Review*.

d) The establishment of a greater number and variety of college-level courses in the high schools of the state *or accessible to high school students near their homes.* Also, establishing policies at the University which recruit such students and credit them for such work will be essential. In 1982 only 108 students in West Virginia took Advanced Placement Examinations and only 17 percent of the schools in the state sent students to such exams. The University, in further student access to such college level courses, might consider the AP model and/or the Project Advance model operated by Syracuse University. The College Board will provide extensive consultation to the University; Syracuse will provide extensive materials about its program. A combination of the two programs in West Virginia could be worthy of serious consideration. If the University wished to launch this type of effort as a joint venture with other institutions, they would find an excellent example in the Options in Excellence Project in San Antonio, Texas, supported by the Piper Foundation and run by the College Board.

e) The establishment of one or more specialized or general residential high schools (year-round or summer only) in the state under the direction of the University or possibly as a joint undertaking with other public and private institutions of the state with the initial leadership coming from the University. We believe this to be one way for all institutions in the state to engage in a cooperative venture leading to creation of a resident high school open to students on a competitive basis and operated at little or no cost to students.

We believe that North Carolina, with three different residential high school programs (School of Science and Mathematics, 919-683-6656; North Carolina School of the Arts, 919-784-7170; Governor's School, 919-725-8761), offers the best models to follow. The Governor's School operates in the summer only.

f) The encouragement of one or more foundations to establish in West Virginia a School-College Collaborative Project which would invite individual colleges and universities to jointly develop projects linking the two or address school improvement issues mutually defined. The Project could invite *jointly* developed proposals to address curriculum matters, instructional needs, personal devel-

opment needs, guidance problems, testing and assessment problems, or specific projects in school-college transition. The Northwest Area Foundation Project "Cooperation for Quality Education" offers an excellent example of a succesful program to promote partnerships between schools and higher education institutions.

School-University Partnership Arrangements

At the conclusion of the introductory section of this report, we spoke of a necessary balance between activities driven by the service role of a land-grant university and those kinds of activities which have a clear payoff in the recruitment of students. To the degree that these two sets of activities can complement and reinforce each other, so much the better. The preceding sections have emphasized those aspects of relations to schools having a clear payoff in regard to recruitment and a smooth transition from secondary schools to the University. This section addresses a somewhat more subtle kind of relationship wherein the University serves its own interests and responsibilities in the area of higher education, while contributing to the improvement of public education generally. This theme will be picked up again and extended in the report of the Panel on the College of Human Resources and Education which is a separate but, nonetheless, supplementary and, to some degree, reinforcing report.

Some of the major problems of schooling being revealed by current studies call out for school-university collaboration. Some of the human resources for addressing them are well represented in the University. Some of the problems, if not adequately addressed, seriously affect the clarification and development of the proper educational delivery system at the University level. We address the collaboration called for through just one example — the curricula of secondary education. Unless major attention is given to these curricula during coming years, secondary school students will continue to be short-changed. Unless the necessary curricula are developed, the precollegiate education of students will continue to distort the curricula of higher education. The problem extends far beyond the need to provide remedial work in such fields as English and mathematics at the college level for those who come ill-prepared.

The extensive body of data presented by John Goodlad in *A Place Called School* (McGraw-Hill, 1984) documents the nature of the high school curricular problem. The data reveal that merely specifying more courses in such fields as mathematics and English for high school graduation and university admission is not sufficient. In the first place, the curricular crisis, as it has been described, extends far beyond English and mathematics into the humanities, world or global understanding, foreign languages, and the arts (two major reports on the teaching of foreign languages and international understanding and on the humanities have gone virtually unnoticed). Consequently, what we must seek for secondary students is a balanced curriculum in all the domains of knowledge and the ways of knowing. Few of the recent revisions in requirements for high school graduation and college admission assure the desired comprehensiveness and balance.

Second, the problem extends far beyond more courses. The issue is *what* mathematics, *what* English, *what* social studies, etc. for *what* students. Goodlad's report portrays vividly the differences in *kind* in the curricula encountered by upper track as compared with lower track students in virtually all fields. Students in the lower tracks are not merely studying the same content at a slower pace, but are encountering quite different subject matter and are unlikely ever to encounter the subject matter to which upper track students are exposed. Apparently, differences in ability to learn are being provided for by differentiated curricula rather than by differentiated pedagogical methods designed to assist *all* students to master a reasonably common curriculum. Mortimer Adler, in *The Paideia Proposal*, has recommended a fully common curriculum for all. Goodlad had recommended a largely common curriculum in five major domains of knowledge plus physical education, but has allowed a 20 percent deviation in each domain at the local level to provide for the more gifted at one end and the slower students at the other. However, beyond this 20 percent deviation in the time allocated to each field, there is not in his recommendation any latitude for borrowing time from one field in order to extend attention to another beyond the 20 percent figure of allowed deviation for each of the domains. In addition, he has recommended a minimum of 10 percent of the curriculum devoted to the development of special interests and talents.

Are Adler's and Goodlad's recommendations for much more commonality in the curriculum in the right direction? If so, they call for an enormous reduction of electives and substantial assistance to less able students in a curriculum far more common to all than is the case today. Beyond these implications, however, the recommendations raise major questions about what is to be the nature of the common content. There is at the present time virtually no ongoing work in curriculum development at any level of the educational system. Further, the universities have not given attention to the curricula of precollegiate education since the 1960s. (In addition, the universities have given very little attention in recent years to their own general education curriculum at the undergraduate level). It would appear that, on one hand, the lower schools desperately need the involvement of university personnel in curriculum development and that the university very much needs substantial improvement in the secondary curriculum if there is to be some assurance that the university can proceed confidently to the development of its own curricula with an awareness that constructive reform is ongoing at the precollegiate level.

The suggested direction for University involvement brings us back to the matter of a balance between University service and the University's role in the advancement of knowledge. The University simply cannot even attempt to provide service to all the secondary schools of the state likely to request it. Resources would be spread thin and soon depleted. Instead, for addressing curricular problems, we recommend a clearly defined and executed partnership between the University and a small number of secondary schools in selected school districts. These might well be the districts where there are now school-university collaborations for pre-service and in-service teacher education. The proposed collaborations should extend far beyond the College of Human Resources and Education. We cannot recommend the precise number of school districts to be involved in the proposed partnership. And we do not recommend that all schools in selected districts be involved. Rather, leadership in the collaborating school districts and leadership in the University should arrive at an agreement regarding a number of schools in which exemplary curricula are to be developed. Other schools will be served by the selected schools establishing linkages and networks of various kinds.

We recommend that the schools embraced by this partnership arrangement become both a relatively close-by network for working out solutions to problems such as the curricular one as well as laboratory-type schools for research activity, with this second function applying particularly, but not exclusively, to the College of Human Resources and Education. Some of the possibilities in both categories include the following:

a) The joint involvement of secondary school and University teachers in designing alternative teaching strategies in the subject fields. It is clear from Goodlad's data on 1,016 classrooms that teachers employ a very narrow array of pedagogical procedures, with some 88 percent of the instructional day being spent on "frontal" teaching (telling, lecturing, questioning, etc.) and various kinds of seatwork activities (such as the reading of textbooks, the completion of workbook exercises, and the like). Students rarely write relatively long essays or read whole books. Worse, they seldom engage in genuine problem solving, classroom work requiring collaboration, or disciplined dialogue with teachers and fellow students. These alternative pedagogical procedures, essential to the acquisition of most higher level cognitive skills, are seldom seen or experienced in either the undergraduate subject matter preparation of teachers or in the professional programs offered by schools and colleges of education. Rather, the way teachers teach is how they were taught as students from the first grade through college. It would be somewhat surprising for teachers to teach in ways other than they do. The joining of high school and college teachers for mutual exploration of alternative pedagogical procedures would be beneficial to both.

b) Although it is possible to identify something resembling a national agenda for school improvement in such areas as the curriculum, pedagogy, the selection and preparation of better teachers, the education of school principals, and so on, schools differ widely in many things; the problems in each require careful diagnosis and specific remediation. But it is clear that local schools lack the data necessary to building a relevant agenda for improvement. They have test scores, but not much else. Few schools maintain an ongoing record of how individual students are utilizing curricular time, whether individual students are beginning to fall by the wayside in the early years, whether students are becoming so involved

in vocational education and training courses that they will be blocked from continuing their formal studies, and so on. To the present "outcome" measures of how students are doing must be added "contextual" measures of how schools are conducting their business. Hardly any schools in the country maintain the necessary inventories, in part because the tools for gathering such data either are lacking or are scattered about and not brought together into some useful inventory. Consequently, the problems selected for improvement frequently have little relation to outcome measures, if one wishes to use this criterion, and certainly do not provide any sense of direction for collaborative school improvement among teachers, students, and the parent body. If local schools are to build agenda for self-improvement, they must have data not now available. Here is a place, surely, where the University can be of assistance. If such departments as Psychology, Sociology, Education, etc. cannot provide the necessary tools or will not participate in their development, then the University is seriously remiss in its service role — a role which clearly contributes to research productivity in all of the fields mentioned.

c) Simply talking about alternative pedagogical procedures is not sufficient. One of the reasons teachers at both secondary and collegiate levels do not use them is that they do not have an opportunity to experience them. Consequently, it is necessary to create settings in which the development of alternatives is standard business. This can be done in a few sites located reasonably close to the University, the sites where the school districts and the University have agreed to operate in a partnership relationship. By focusing on school improvement, sites in which alternative practices come to be standard are developed over the years. The in-service education of practicing teachers proceeds as a natural part of school improvement. The process of improvement creates settings where it is useful to send persons who are preparing to teach, whether in their English, mathematics, or sciences courses in the University, or in the pedagogical part of their professional preparation. In effect, school improvement, in-service teacher education, and pre-service teacher education become combined. Professors in the appropriate departments participate as do professors in the College of Human Resources and Education. The resulting benefits are too numerous

to list. One example is the possibility that University professors will become convinced that high school teaching is challenging work worthy of their best students. It is an open secret that University professors in the various departments frequently advise their best students (and sometimes even their average students) not to enter teaching. We all lose.

The Statewide Leadership Role

The foregoing discussion implies a rather high-energy role for the entire University in regard to a relatively small number of school districts and schools rather readily accessible geographically. Although a service role for the University is both implied and explicated, the proposed partnership between the University and the school districts and a few selected schools is focused more on advancing mutual functions and interests than on the "outreach" role of the University. Undoubtedly, the University would gain a considerable amount of good will from the services rendered. However, the potentiality is for both the clarification and improvement of curriculum and instruction with the University (as well as within the school districts) and a major University contribution to the development of alternative models of schooling. In effect, the University provides a very high level contribution to the solution of problems plaguing the schools which have serious implications for higher education. The rest of the state profits from the exemplary practices developed. The dissemination of these exemplary practices becomes an added function of the University.

This brings us to further clarification of the University's statewide role. The state needs the University's contribution to exemplary practice and the research and development accompanying the creation of such practices in the same way states need university leadership in such fields as fisheries, agriculture, lumbering, mining, and the like. In this case, however, we are dealing with the development of human resources — children and adolescents in elementary and secondary schools and young adults at the college level. The point to be made is that a research-oriented university such as West Virginia makes a greater contribution to the state as a whole by developing exemplary educational practices in a research context and disseminating these practices than it does in providing

miscellaneous services for teachers and others all across the state. If the University is to shift its emphasis at all from its present service role, it should be toward the in-depth activities implied above and away from the sowing of little seeds through the offering of far-flung, short-term classes to small groups of teachers. Offering a 3-day workshop in a remote part of the state might well have far more payoff for both the schools and the University than do a vastly larger number of miscellaneous courses not well focused for educators.

In giving up at least a portion of its in-service activities for teachers, for example, the University might well develop a few more sharply focused activities to be both conducted at the University and carried out to school districts across the state. The following suggestions and recommendations are illustrative only:

a) The President's Forum. During the coming year, in particular, the struggle for the dominance of some ideas over others in regard to the reform of public schools undoubtedly will intensify. Those ideas coming to dominate will be the ones occupying the time and energy of educators and powerfully influencing what students do in schools. Some of the ideas already coming to the surface are being built into state mandates and district policies but will do little to improve the schools. Whatever may be the positive features of such recommendations as higher pay for teachers, merit pay plans, a longer school day, and the like, none of these will go to the heart of the required educational reconstruction. Some more powerful ideas are gaining saliency and more are to follow. It is exceedingly important, if the current opportunity to improve schools is to be fully exploited, that there be in each state an informed dialogue about the conditions of our schools and the reforms likely to improve them most fundamentally. We recommend that West Virginia University take the lead in creating over the state a series of meetings under the rubric, "The President's Forum," in which the major reports published and forthcoming and the ideas regarding school improvement be presented and debated. President Gee need not attend each of these, but the invitation should come from him and the person or persons selected as catalysts should be announced by him in all communications. Of course, it would be

highly desirable for President Gee to be present in person in at least the first round to be conducted in all major sections of the state. Wherever possible, too, presenters should include persons associated with some of the major reports and the ideas. The purpose is simply to stimulate an informed dialogue in a spirit of objectivity appropriate to a major university.

b) The Deans' Forums. The President's Forums need not terminate after a round of such dialogue and might well be extended to include other areas of University interest. Meanwhile, several different kinds of Deans' Forums might be undertaken. Whereas the recommended President's Forums on Schooling would be directed to communities as a whole, the Forums created by the Dean of the College of Human Resources and Education would be directed to administrators at the outset and, subsequently, to teachers and specialists in schools. The range of topics would go beyond the focus of current reports to include a broad variety of problems and issues pertaining to the conduct of public education in the United States and in West Virginia. The Forums of Deans of other units of the University might well pick up other components of the educational enterprise. For example, the Dean of the College of Arts and Sciences might well sponsor Forums on general education as preparation for the vocations. There is abroad in the land the disquieting notion that we might have "over-educated" parents, citizens, and workers. Also, some bold unit of the University might well introduce into public discussion the controversial notion that the preparation of young people for worthy use of leisure time goes beyond participation in inter-scholastic athletics now and mere spectatorship later. The dominance of athletic competence over academic competence as a basis of recognition and popularity at the secondary school level is a national disgrace. Addressing such an issue in West Virginia would be bold, indeed. Nonetheless, the University is supposed to be a place of and a stimulant for open discussion of critical and unusually controversial issues.

c) Educational Technology. We have been in a technological revolution for a long time, but it has largely bypassed our schools and universities. Our continuing reluctance in academic circles to

make use of the advances of technology for educational purposes cannot be justified on any grounds. To give just one example, the current interest in the sciences and mathematics will not produce the science and mathematics teachers we need. James B. Conant recognized this shortage in 1963. The circumstances have changed little since then; they are not likely to change very much in the future. The possibilities for putting on videotape, for example, and, beyond that, for interactive systems involving the laser usher in exciting avenues for extending education beyond the university in cost-effective ways. Instructors in community colleges and small universities should be able to enrich their courses with video recordings of scholars at West Virginia University. It is not cost-effective to send large numbers of instructors to remote corners of the state. Our failure to use technology in previous decades should not be interpreted to mean that the possibilities do not exist. Perhaps we were premature in attempting what we did in the 1950s and 1960s. The technology has advanced tremendously since then, and the need for using it effectively for instructional purposes is greater today than it was then. West Virginia University should take the lead in developing television programs and various types of video recordings in creating a statewide system of in-service education. The human resources used might well be drawn from institutions in addition to West Virginia University.

d) Toward a Consortium of Universities. Indeed, the above proposal for statewide use of television and videotape recordings for educational purposes might well provide an entry for a statewide consortium of universities focused on upgrading public education throughout the entire state. Such a consortium would make it easier for West Virginia University to take the lead without unduly stirring up the issues pertaining to "turf" always in existence to some degree.

Regarding the issues of "turf" and the role of West Virginia University in the state as a whole in regard to relations to schools, several further points need to be made. First, the restructuring of secondary education and the interface between secondary and higher education inevitably involves the role of community colleges. The proposed partnership between the University and surrounding

school districts and schools might well include those community colleges which graduates of secondary schools ultimately enter. For example, rapid evolution of technology suggests that the community colleges rather than the secondary schools may be the places where much of the technical training might be acquired by some students.

Second, it is clear that West Virginia University is the key institution for graduate education in the state and, increasingly, will be the dominant graduate institution. In the matter of relations with schools, West Virginia University must take such steps as are necessary to assure that the most promising and able educators at the precollegiate level secure their graduate preparation at West Virginia University. The report on the College of Human Resources and Education will extend this part of the discussion and add some recommendations. In this area, in particular, the continued recognition of the coal-curtain as a determinant of territoriality makes no sense. Given the mission and resources of West Virginia University, it should operate throughout the state free of such artificial barriers. Nonetheless, this must be done through the definition of a distinctive mission recognizable to the other institutions, particularly those offering four-year programs. The direction here involves certain trade-offs regarding the support and encouragement of four-year institutions to develop their strong programs in recognition that doctoral programs are the peculiar and special contribution of West Virginia University. The University, then, should reach out boldly, through its College of Human Resources and Education, to identify the most able and promising educators for advanced study in the University. This calls for an enormous amount of development at the level of school districts. In writing this report, we find ourselves relatively uninformed in regard to current efforts to organize graduate alumni of the College of Human Resources and Education into a cohesive support group, which will have as part of its role the recruitment of candidates for the doctoral program. We recommend that the University define specifically the services it might potentially offer such a group, present these as a package, and use them as a stimulant to the creation of a network of doctoral alumni. It is recommended that there be a

membership fee which will be used to provide the desired services. Membership in the organization should come to be recognized as one of the highest attainments available to educators who take the doctorate at West Virginia University.

Panel Members:

John I. Goodlad
Rexford G. Moon

Panel Report on Science-Based Technology

SUMMARY

West Virginia University is crucial to the state's ability to increase jobs and economic opportunities through the development of a better science and technological base. The state needs to take stock of West Virginia University's resource, intelligently use it, and reinforce it. WVU must assess realistically its strengths and weaknesses and evolve a strategy of academic development of science and technology that will enable it to respond to the needs and opportunities of the state.

Such a strategy should evolve from a dialogue within the University as well as between the University and the state.

Observations

1. West Virginia is at the crossroads in science and technology. Its choice — whether or not to resort to a determined strategy to increase economic opportunities for its citizens through the reinforcement of its scientific and technological strengths.

At this juncture there appears to be no strong consensus as to the priority to be given to industrial development and to science and technology policy.

Under these conditions it is difficult for WVU, working in isolation, to establish a clear role for itself as a center for science and technology addressed to the needs of the state.

2. The difficulties in strengthening the science and technology base of WVU are perceived by WVU as being exacerbated by the University's inability to communicate more directly with the Legislature about its goals and needs.

3. The state is experiencing severe fiscal strictures that limit allocations to WVU. It is hoped that every possible effort will be made to earmark special resources to strengthen WVU's science and technology base. At the same time WVU must count as much as possible on its own resources to develop such a base.

4. The ability of West Virginia University to do so (reallocate resources) appears to be hampered by state policies.

5. The development of a stronger base in science and technology may be hampered also by unrealistic expectations that the University offer a very broad spectrum of programs, all with the same excellence.

6. The major industry of the state, mining, appears not to have been strongly supportive of the University's effort in science and technology, especially in not encouraging a closer linkage between WVU's activities in mineral resources and in engineering.

7. Given WVU's location, close to a major industrial region to the north, the state should be able to offer an attractive science and technology site to industries from that region and elsewhere.

COMPLETE REPORT

Introduction

West Virginia University, in addition to its basic role in providing educated citizens and leaders, is crucial to the ability of the State of West Virginia to increase jobs and economic opportunities for its citizens through the development of a better science and technology base that will help attract new enterprises and strengthen existing ones.

To take full advantage of the resource represented by the University as its major center for research and training in science and engineering, the state needs to take stock of that resource, intelligently reinforce it, and learn to use it more effectively. In turn, the university must assess realistically its strengths and weaknesses and evolve a strategy of academic development of science and technology that will enable it to better respond to the needs and opportunities in the state.

Such a strategy cannot be prescribed by an external group of consultants. It should, rather, evolve from a dialogue within the university as well as between the university and the state. What we as consultants can do, however, is to provide a set of general observations and recommendations that could help, it is hoped, in the development of that dialogue.

Observations

1. We believe that the State of West Virginia is at the crossroads in science and technology. The fundamental choice for the state is whether or not to resort to a determined strategy to increase economic opportunities for its citizens through the reinforcement of its scientific and technological strength.

At this moment there appears to be no strong consensus in the state as to the priority to be given to industrial development and there is no science and technology policy to direct and strengthen the state's capabilities in science and technology. As a consequence, there is no clear definition of the role expected of higher education —and of the university in the first place. (It is fair to note, however, that West Virginia's investment in higher education as a percentage of the state income is not inconsiderable in comparison to that of a number of other states.)

Under these conditions, it becomes particularly difficult for the university, working in isolation, to establish a clear role for itself as a center for science and technology addressed to the needs of the state, and to make the strategic choices required. Yet it must do so, for the sake of the state and for that of its own future.

2. The difficulties in strengthening the science and technology base of the university are perceived by the university as being exacerbated by the inability of the university, under the present system, to communicate directly with the legislature about its goals and needs, and to have a response to those needs.

3. The state is experiencing severe fiscal strictures that have limited the providing of substantial new allocations to the university. It is to be strongly hoped that every possible effort will be made by the state to earmark special resources for the strengthening of its science and technology base. At the same time, realistically, the university must count as much as possible on its own resources — limited as they may be — to develop such a base.

4. The ability of the university to do so appears to be hampered by state policies that deprive it of flexibility in the allocation of its internal resources.

5. The development of a stronger base in science and technology may be hampered also by unrealistic expectations — both within and without the university — that the university offer a very

broad spectrum of programs, all with the same excellence and the same standards of support.

6. The major industry of the state, mining, appears not to have been strongly supportive of the University's effort in science and technology, and may have actually limited the ability of the university to take full advantage of its resources by not encouraging a close linkage between the university's activities in the area of mineral resources and those in the area of engineering.

7. By virtue of the university's location close to a major industrial and high technology region to the north, the state should be able to offer an attractive science and technology site to industries from that region and elsewhere. This, however, will not occur automatically without focusing on specific opportunities and developing to the fullest the potential of site and university.

Recommendations

1. The university should become a prime mover in the establishment of a partnership of government, industry and higher education focused on the issue of a science and technology policy. There are a number of models that can be followed in establishing such a partnership, including, e.g., one proposed by the Western Interstate Commission on Higher Education (WICHE).

2. The University should take a very hard look at the role it can fulfill in helping the state to strengthen its science and technology base, and should make constructive recommendations to the state as to how jointly the University and the state, within the context of a partnership, can achieve that goal. Such recommendations need to be based on the present economic and political reality in West Virginia, and should be well-documented and specific — beyond the generalities of need for salary or equipment support, important as such needs are. Concern with economic realities requires close attention to the ways of enhancing the production and value added of the mainstays of the state economy — coal and power, as well as forestry — and to ways of developing new economic strengths.

3. Even in the absence of a state economic plan, the University should unilaterally take steps to enable it to be in a stronger

position to support the economic needs of the state through science and technology.

4. Given the limitations of the resources that the state can make available to the University, it becomes imperative that the state allow the University to redefine the missions of its units and allocate more flexibly its resources across units and budgetary lines.

5. In turn, the University needs to decide which are the thrusts that it must nurture to fulfill its fundamental educational mission and to support the economy of the state. At this juncture the university cannot and need not be all things to all people — indeed no university, no matter how well supported, can. There are other institutions in the state which can provide at least undergraduate programs in many areas. Choices are imperative, particularly in West Virginia, and require the development, both among the internal and the external constituency of the university, of a realistic expectation of what the university can and cannot do.

6. A first element of choice has to involve the principal thrusts that can give the university a chance to strengthen the economic base of West Virginia. It is essential that priority be given to activities in engineering, in computer science and some selected sciences, as strength in these areas is fundamental to reinforcing and attracting industry. We further believe that these activities must be given a very sharp focus, so as to achieve strength at an acceptable cost. The present budgetary limitations make it unrealistic to attempt to achieve strength in more than one or two areas of science and technology. Even if much larger resources were available, it would be more productive, not to proliferate the areas of concentrated effort.

This implies that the University will need to sharply differentiate between graduate areas and areas where it should offer only undergraduate degrees. Indeed, some undergraduate programs can be left to other institutions.

Excellence, furthermore, is not achieved simply by offering graduate degrees. The graduate programs themselves must be of high quality — a very demanding proposition. Thus, among the areas where graduate degrees are offered, a further differentiation should be made between those earmarked for an all out effort and those where the University cannot afford at this moment to make

an extraordinary commitment, and should thus bide its time. In certain academic areas, it may be more effective to develop academic strengths by collaborating with other universities, both within the state or outside, rather than attempting to build or maintain an autonomous effort of subcritical mass.

In brief, whatever the University chooses to do as a result of this review effort, it should choose to do well. The University needs to look at the quality and cost of every academic program and decide whether it is already excellent, and, if it is not, what it would take to make it excellent, and whether the University can afford to improve it.

7. Particular attention must be given within the University as a whole to improving the research atmosphere. External funding needs to be aggressively pursued, and this in turn requires more support in the administration of grants and contracts, and more guidance to faculty members in the preparation of proposals.

8. We believe it advisable, in developing a stronger posture toward research, to keep curricula considerations separate from the thrusts of the research projects. Curricula and departments are hard to change, and should in any case be changed only very slowly and deliberately. On the other hand, the mechanisms and structures for doing research should be as flexible as possible, so as to respond to rapidly changing needs and opportunities. Thus we would not recommend the setting up of new departments or curricula in response to what may be perceived at this moment to be important areas of research, but which may change in the future. It appears to be far more desirable to have a few strong departments in the basic disciplines of science and engineering, and to articulate their deployment and their resources for research through flexible projects or centers.

9. We believe that a major effort must be made to strengthen the College of Engineering, which is the pivotal resource in terms of the technological attractiveness of the state. The decline of its research programs must be reversed, and the faculty must be selectively strengthened. Similarly, we believe that a major effort needs to be made in computer sciences, which are as indispensable as engineering to the creation of a technological base in the state.

10. We are less convinced that major investments in strong Ph.D. programs in other scientific disciplines are essential at this moment to improve the technological base of the state, and we would rather see a determined consolidation of what already exists.

In particular, we strongly recommend that a major effort be made by the University to develop effective interactions among its different scientific and technological disciplines, in order to create critical masses of faculty and graduate students working on kindred problems, and in order to achieve objectives that would otherwise require infusion of substantial resources. Much attention should also be paid to the possibility of combining in a single department resources in certain disciplines, such as chemistry or biochemistry, which are currently offered in several colleges of the university.

11. The obvious advantages of synergism are apparently lost in the case of the College of Engineering and the College of Mineral and Energy Resources (COMER). The resources of the two colleges should provide a much stronger integrated combination with sufficient critical mass of faculty and staff, with greater unity of purpose and better utilization of resources and greater economy of scale, that would make it considerably easier for the state to respond to the technological challenge before it. Stronger interactions, because of their potential payoff to the economy of West Virginia, should also be developed between the areas of engineering and of agriculture and forestry.

12. The University should also greatly strengthen its extension programs in engineering, as the presence of an up-to-date work force of engineers is an indispensable ingredient in reinforcing the technological base of the state and in making the state more attractive to technological enterprise from outside the state.

13. An issue that should be addressed throughout the University is that of computer literacy. A work force of all levels of skills, both in industry and commerce, capable of utilizing computers in the performance of their jobs, and, in doing so, to be more effective and productive, would be a most important component of the technological base of the region. Its achievement requires the establishment of a sufficient cadre of teachers of computer science, the training in computer skills of all students at the

University, the establishment of a major extension effort to reach the population of the university, as well as the development of programs on the applications of computers to every significant economic activity in the state (a development that could fruitfully involve most of the colleges and departments in the University.)

14. In addition to taking a very critical look at its academic programs, the University needs to focus on mechanisms that will facilitate its ability to serve as a resource for the state in the development of a technological base. Such mechanisms may include the creation of a regional technology center or of an engineering experiment station, with the dual purpose of making the resources of the university more visible and available to the community, and of enabling the University to overcome some of the limitations in the performance of applied research inherent in the academic environment (e.g., through the recruitment of a full time research staff). The University, furthermore, should develop strong collaborative efforts with state agencies and with industry, with focus on specific economic activities of the state — present and potential — that can greatly benefit from research and infusion of technological strength. The goals could include enhancement of the value added to the natural resources of the state, such as mining or forestry, improvement of services by the applications of systems engineering and computers, upgrading of the manufacturing and construction industries by the selective use of computer assisted design and manufacturing techniques, as well as attraction to the state of new high technology industry.

15. Although our recommendations have been focused primarily on the University, we strongly believe that the state should make a maximum effort toward providing the University with seed money for the strengthening of selected thrusts. It is also imperative that the state allow the University more flexibility in the management of its resources, in the selection of the areas where it should concentrate its efforts, in the elimination and combination of programs, as well as in the creation of new programs and new mechanisms to respond to the difficult challenge of technological developments.

16. Finally, we believe that the industrial leadership of the state cannot afford to neglect the potential of the University, and

that it should make in turn a major effort to support the University in the acquisition of a greater technological strength. Everything that the University does in this area redounds ultimately to the benefit of industry. Industry should endeavor to provide resources, advice and support that will facilitate the creation of specific technological strengths, while avoiding interference with the organization and operation of the University.

Conclusion

The game is tough, but the stakes for West Virginia are high. We believe that the development of a strong science and technology base through an intelligent utilization and reinforcement, in the first place, of the University, can be a most important step toward encouraging the economic recovery of West Virginia in this century and toward making that economy thrive in the next.

Panel Members:

George Bugliarello
Arthur G. Hansen
Joseph Pettit

Panel Report on Undergraduate Studies

SUMMARY

Even though West Virginia University is a large, complex land-grant institution, undergraduate studies embrace the needs of a vast majority of the University's enrollment. Undergraduate *teaching* is of primary importance with the *student* as the center of attention.

The Core Curriculum

1. The concept of a core curriculum is based upon the conviction that every student should master a common body of knowledge during his/her undergraduate years. It is an essential foundation for whatever specialized career or professional interests the student wishes to pursue.
2. West Virginia University has implemented this concept with some success and a certain amount of frustration, the latter because of vagueness concerning what should be included in "The Core" as well as problems of scheduling and availability of courses.
3. The Panel is encouraged that the Core Curriculum Committee of the Faculty Senate is reexamining the present program and commends the urgency indicated in the Committee's charge. It agrees that the Core Curriculum needs to be simplified in design, strengthened thematically, presented more effectively, and given a clearer identity.
4. The Panel offers the following recommendations:
   a) The core curriculum should be encompassed in six three-credit-hour courses required of all undergraduate students.
   b) The recommended courses should be created by subcommittees of the Committee on Core Curriculum (CCC), of six members from a variety of disciplines.
   c) The courses should illustrate the unity and inter-relationships of knowledge in the arts, physical, and social sciences.

d) Because of the multidisciplinary character of the core courses, CCC should consider the possibility of team teaching.

e) The Panel believes the subcommittees will need one year of substantial effort to select the substantive elements and settle on methods of presenting the courses.

f) In addition to the six required courses designated as the core, the student should have the opportunity to elect six to 12 additional credit hours of course work from the general education sector.

Delivery System

With the students as the focal point, the teacher is at the very center of the enterprise. Accordingly:

1. *Instruction.* It must be made clear that teaching of undergraduates is valued by the University. Example: Appropriate recognition. Salaries must reflect the University's commitment to undergraduate teaching and not be completely influenced by the marketplace. *Adequate office space and secretarial assistance.*
2. *Advising.* Faculty should be expected to devote, as part of their load, reasonable time to advising; should receive orientation in advising; effectiveness in advising should be a part of promotion and tenure consideration and in salary increase determination.
3. *In-Service Faculty Development.* Sabbaticals, special study, and research grants should be available as incentives, as well as faculty retreats, a faculty club which could serve as an intellectual "open house."
4. *Processes Centering on the Student.* There needs to be a constant monitoring of educational processes and procedures so that scheduling, registration, etc., do not frustrate the students' attempts to pursue their educational objectives. The present problems of scheduling of core curriculum courses should be improved.

Other Considerations

1. *Enrollment Management.* Consideration should be given to downsizing the undergraduate enrollment to cope with demographic trends and to improve quality and retention.

2. *Summer Session.* High-demand courses needed by undergraduates should be available in the summer session so as to relieve the present (and future) scheduling problems.
3. *Courses and Grading.* To halt proliferation of courses, the Panel suggests adoption of a "sunset" rule so that if new courses are offered, a like number of marginally enrolled courses would be dropped. Also, the Panel recommends adoption of Pass/Fail grade options in certain elective courses to encourage students to "explore" and broaden their horizons.
4. *Nontraditional Students.* While stressing the needs of the *typical* undergraduate student, the Panel urges WVU to expand its instruction for the *atypical* student and the *lifelong learner.*
5. *Public Schools.* While aware that another Panel is reporting on relations with the high schools, this Panel urges University-wide attention to improving ways of preparing new public school teachers and upgrading existing teachers.
6. *Statewide Scene.* The education of undergraduates is not entirely an inside matter but has statewide implications in which WVU needs to be very influential.

Suggestions to University Administration

1. The faculty are central to any reconsideration of undergraduate education at WVU.
2. The President, Vice President for Academic Affairs, and other academic officers should make strong statements of support for general education.
3. The President should accent the control role of general education and the undergraduate curricula in communicating with the University's external constituencies.
4. University administration and faculty should work cooperatively to strengthen the University.

COMPLETE REPORT

Goals

West Virginia University, the largest and most comprehensive higher education institution in the state, is commited to fulfill responsibilities in teaching, research, and public service. Further, since it is the

land-grant institution of the state, its responsibilities in all three areas take on an added dimension. These remain constant over time even though the characteristics and patterns of education are bound to change even as the world changes.

This Panel has been asked to concentrate on the structure and substance of undergraduate studies. These elements are of extraordinary importance not only by their very nature but because undergraduate studies embrace the needs of a vast majority of the University's enrollment. Teaching, in all its forms, is thus the primary consideration, with the *student* as the center of attention. The Panel's definition of the goals of the undergraduate program is expressed with due regard for this focus:

> The program is designed to develop a person who can move toward a stable economic life technically or professionally; who can discover richer and deeper patterns of living through cultural awareness and appreciation; who can, at least, understand the need for, and in some instances, wish to participate in, the expansion of knowledge and the search for truth; who is constantly aware of the swiftness of change in modern society and can adapt to such change; who is sensitive to the responsibilities of freedom together with its rights; and insists upon these obligations and opportunities for others; and finally, who is motivated to help solve the major social problems of the time at whatever level of usefulness possible.

This is a broad statement of objectives, but it implies the necessity for a diversity of specific learning patterns and disciplines as well as a balance between skills and attitudes for living and learning. It also describes a person who should emerge with a motivation to be actively involved in human affairs.

The Core Curriculum

The concept of a core curriculum finds its roots in the conviction that a common body of knowledge exists which every student should master during undergraduate years. This body of knowledge is to be found in general education, often referred to as Arts and Sciences. It is purported to be an essential foundation for whatever

specialized career or professional interests the student wishes to pursue. Its intent is to provide breadth and balance.

WVU has implemented this concept with some success and a certain amount of frustration. A good deal of the latter can be traced to the tendency toward vagueness as to what should be called "The Core;" an added amount stems from problems with the scheduling and availability of courses. To complicate matters even more, literally hundreds of course choices within the catalog are included as part of the core, thus blurring its focus.

It seems clear that the faculty and administration recognize the current problems. The 1983-84 charge to the Core Curriculum Committee reflects a feeling of urgent need to reexamine the present program thoroughly. It says, in part: "The Committee should formulate and recommend a specific pattern of requirements for general education. . . ." It should also identify courses, sequences of courses, and themes, from among the present offerings that might be designed, that would be appropriate for the recommended pattern of general education requirements. . . . The charge goes on to set the stage for a long process of deliberation with broad representation of faculty from all the colleges and schools of the University.

The Panel commends the urgency indicated in the charge to the Committee and the realization that improvement is needed. It spent a great deal of time discussing and debating this aspect of the undergraduate program. It agreed that the Core Curriculum needs to be simplified in design, strengthened thematically, presented more effectively and given a clearer identity.

The Panel offers the following recommendations and observations:

1. The common body of knowledge designated as the core curriculum should be encompassed in six three-credit-hour courses required for satisfactory completion by all undergraduate studies.
2. The recommended courses should be created by subcommittees of the Committee on Core Curriculum (CCC), possibly six in number and including membership from a variety of disciplines.
3. The courses should illustrate the unity and interrelationships of knowledge, developing information, appreciations, and per-

spectives (historical and contemporary) in the arts, physical, and social sciences.

4. Because of the multidisciplinary character of the core courses, CCC should consider carefully the possibility of team teaching as part of the method of representation. (This could influence the make-up of the subcommittees, some of whom might become participating faculty.)
5. Realistically, the panel believes the subcommittees will need one year of substantial effort to select the substantive elements and settle on methods of presenting the courses.
6. In addition to the six required courses designated as the core, the student should have the opportunity to elect six to twelve additional credit hours of course work from the general education sector. The number of credit hours and the nature of the courses should be determined with the advice and agreement of the student's major department.

The Panel has not presumed to go into further detail regarding the core courses either in substance or methods. The CCC has intimate knowledge of student profiles and is therefore equipped to take notice of the diverse backgrounds, the basic skills students bring with them as freshmen, their intellectual and social maturity, and other elements that should influence the content and patterns of the curriculum. It also has full knowledge of the capacities and attitudes of faculty members, and therefore can judge the degree of enthusiasm with which curricular changes will be welcomed. The Panel has also not presumed to deal with details relating to the organization and week-to-week work of the subcommittees.

Delivery System

The goals and institutional aspirations of West Virginia University are clearly stated. However, the "effective" educational environment is the one that actually operates and is sometimes rather different from the printed copy, established by faculty and administration.

Keeping the student as the central focal point, a primary goal of West Virginia University is to maintain a high-quality undergraduate educational program. To achieve this, certain conditions

should be given special attention, if the hoped-for outcome is to reflect substantive implementation.

While the student is the focal point, the teacher is at the very center of the enterprise, from whom emanates the direction, the challenge, the stimulus, the counseling, the inspiration, and the substance and the quality of the educational experience of the student.

To help achieve the ethos and the environment most conducive to study, scholarship, and learning, special emphasis at WVU should be placed on the following areas:

A. *Instruction*

It must be made abundantly clear to all, particularly to faculty, that the teaching of undergraduates in all departments is *valued* by the University. Appropriate recognition should be given. For example, at an annual honors convocation where the University community formally recognizes excellence in student performance, special awards should be given for outstanding teaching. Ideally, this should include a cash stipend so that the faculty member might be better able to pursue his or her scholarly interests more easily.

Salaries in all of the schools and colleges must reflect the University's commitment to undergraduate teaching. While the marketplace determines salary levels in order to attract and keep faculty, there must be clear evidence that all disciplines are valued and rewarded. Salaries at WVU are much too low for the University to remain competitive and enhance its position in the American higher education community. Additionally, adequate office space and secretarial assistance must be available. The greater the number of environmental obstacles, the greater is the difficulty in achieving a learning environment in which the teacher is able to motivate himself or herself to strive for excellence.

B. *Advising*

Unique circumstances at WVU strongly suggest that advising at the undergraduate level is critically important if the educational goals are to be achieved. To this end, there should be a very sophisticated advising training program for all faculty. Advising should, in appropriate ways, be supervised in order to increase skills. The advising load must be kept within reason and must be recognized as part

of the load. Here again, rewards and recognition must be evident. Outstanding advising should be honored in ways similar to those for teaching. Effectiveness in advising should be a part of tenure considerations.

C. *In-Service Faculty Development*

In contemporary higher education, the importance of continuing faculty development must be a vital concern. Sabbaticals, special study, and research grants quickly come to mind because they are traditional and proper. At the same time, partly due to its location and partly due to the diversity of its being a multipurpose university, West Virginia University should place special emphasis on bringing to the campus a continuing flow of distinguished visiting lecturers. Hopefully, these lecturers would not be perceived as "departmental" but would attract faculty members from across the entire University. This would also help to overcome the natural isolation of individual schools and colleges and even of some departments, a problem made more difficult because of the distance between the two campuses.

Faculty retreats, a faculty club (not solely social), intellectual "open houses" where departments and programs could expain the state of the art to colleagues from other disciplines, special formal groups meeting to discuss issues from an interdisciplinary perspective — all of these and more will help to bring a true sense of corporate collegiality and provide a continuing renewal of vitality in the educational environment. It is particularly important at WVU that the faculty truly come to know each other better. This understanding will enable the University to address its problems and its future with the advantage of a faculty with a synoptic perspective of the University and its mission. In a time of retrenchment and change, this is all the more important.

D. *Processes Centering on the Student*

The entirety of the report is ultimately related to the education of the student. However, there should be constant monitoring of educational processes so that scheduling, registration, and other procedural matters do not frustrate the students' attempts to participate in the basic reason for being at the University in the first place —

education. The scheduling of core curriculum courses seems to present problems for students as they attempt to fulfill their requirements in the core curriculum and their majors. As much as possible, such processes should be streamlined for the student.

Other Considerations

Downsizing. Serious consideration should be given at this time to appropriate downsizing of the undergraduate enrollment with an eye to quality. This may be feasible from a budget point of view if, as reported, the University is not funded on a direct formula ("pay for FTE") basis. It makes good sense to have clearly-defined admissions standards related to likely success and retention of undergraduates. As the flagship campus, WVU has every right, and indeed some responsibility, for balancing opportunity with high expectations of student performance. Existing and (if necessary) future studies of student retention and predictive success of admissions criteria should be taken seriously. With national attention at a high level in terms of encouraging quality in the public schools, the University (see also below) should strive to raise the level of preparatory work in the high schools of students it will accept.

Summer Session. All too often summer session offerings, especially in the Arts and Sciences, may bear only limited relationship to programs of study of undergraduates during the regular academic year. Some attention might be given to ascertaining in what ways there might be better support (and thus availability) for high-demand courses desired by undergraduates in the summer. This might help with scheduling when the academic year programs of students are heavily committed, for example, to professional majors.

Courses and Grading. From informal study of undergraduate catalog offerings the Panel formed the impression of a proliferation of courses. Time limitations precluded any study in depth of this matter, but it is worthy of continued attention. One possibility would be adoption of a "sunset" rule so that if new courses are to be offered, a like number of courses currently having very low enrollment or even an existence only in the catalog (listed but not actually offered) be dropped. The Pass/Fail grade option in

certain courses can have value in encouraging students to "explore" and broaden their horizons. but should not be overused.

Continuing Education. The central focus of this Panel's report up to this point has been on the needs, requirements, and (it is hoped!) aspirations of typical undergraduates. At the same time, it is essential that such concepts as *the atypical student* and *lifelong learning* also receive appropriate attention. If an educated citizenry is viewed as human capital on the increasingly high-tech national scene, what happens to students young or old may have a direct relationship to the economic future of the State of West Virginia. Thus education on a continuing basis by somewhat older students takes on even greater importance at this time, not as a frill but as a basic, often degree-related phase of the University. While a comprehensive statewide look at the many opportunities this concept affords may be beyond the purview of any individual college or university at this time, the flagship campus on its own initiative might chart appropriate steps for the future.

Public Schools. In regard to public education (K-12), it's already been suggested that WVU could help leaders in secondary education in their quest for higher standards and more depth in the study of basic subjects. While the College of Education has a major role here, university-wide attention to improve ways of preparing new teachers, and even more importantly, the upgrading of *existing* school teachers should receive a high campus-wide priority. Recent major reports such as Boyer/Carnegie, Goodlad, and Southern Regional Education Board are pertinent in this context.

Statewide Scene. While the education of undergraduates may appear at first as entirely an "inside" matter to be defined and provided solely in a campus context, it has already been noted that what does (or doesn't) happen in such places as the elementary and secondary schools, as well as the job market, can greatly influence what WVU is able to do. And in turn, when successful, the University might influence the statewide scene even more than it presently does (which is a great deal).

Even with the potential of a growing number of "older" and/or continuing education students in the next decade, leaders of higher education in West Virginia need to be constantly aware of downward predictions in the demography. The Breneman report (*The*

Coming Enrollment Crisis: What Every Trustee Must Know, by David W. Breneman, Washington, DC, 1982, The Association of Governing Boards of Universities and Colleges) anticipates enrollment dips for the state (minus 16% for 1986, for example) and encourages attention of trustees and administrators to such questions as whether enrollment projections suggest variations among campuses, with the possibility of enrollment ceiling on high-demand campuses (or programs), differential pricing, or redirection policies. The Board of Regents, it is assumed, is giving attention to such matters. Downsizing of undergraduate enrollments (as suggested above) may well fix this contest. Support must not be cut, however.

Suggestions to University Administration

1. The faculty are central to any reconsideration of undergraduate education at West Virginia University.
2. The President, Vice President for Academic Affairs and Research, and other major officers should make strong statements of support for general education. This means a commitment of administrative time, as well as additional resources, within reason, as suggested above.
3. The President should communicate with the University's external constituencies regarding the central role of general education and the undergraduate curricula, both as groundwork for specialization in professional fields *and* as significant factors in their own right.
4. University administration must support the faculty of the institution in every way possible. The faculty also have a responsibility to work with the administration to strengthen the University.

Panel Members:

E.K. Fretwell
Arland Christ-Janer
Sam Gould

Appendices

APPENDIX A

State Funding of West Virginia University A Comparative Analysis of West Virginia and Peer Institutions

by

Frederick S. Lane and James S. Lawrence

Summary

This is an extended summary analysis of state funding of West Virginia (WVU). The study compares WVU's expenditures with those of 18 peer universities throughout the country as well as with funding the University would receive based on formulas used to allocate resources to higher education in four nearby states.

By far the most important single conclusion of this analysis is that the instructional portion of WVU's budget is significantly poorer than those of peer institutions across the country and what it would be if the State of West Virginia had a rational formula for allocating funds to higher education institutions, as does Kentucky, Maryland, Tennessee, and Virginia. Application of the formulas used in these states would provide WVU with between $6.4 and $15.7 million more in this section of its budget that it actually had in 1983-84.

Regarding the instructional portion of WVU's budget, this study also documents that WVU's faculty salaries are far too low when compared with peer institutions. Moreover, student-faculty ratios are inadequate, and as many as 100 additional faculty positions may be justifiable by even a conservative formula. Instructional support staffing also appears to be inadequate.

This report recommends that the Board of Regents, state officials, and WVU develop a formula for budgeting for higher education in West Virginia so that the state's only comprehensive, research university, its land-grant institution, can be funded appropriately.

The study's authors are Frederick S. Lane and James S. Lawrence. Lane is Associate Professor of Public Administration, Bernard M. Baruch College, The City University of New York, and has consulted and published widely on public policy and management in higher education, and served as Staff Director of the Governor's Task Force on Higher Education in New York. Lawrence is Vice President for Finance and Management of City College, City University of New York, and previously served as Director of the University Budget for the 18-campus City University as well as with the New York State Division of the Budget.

The study was supported by a grant from the Benedum Foundation, of Pittsburgh, to West Virginia University as part of a pending comprehensive assessment of the University and its programs.

Copies of the complete report are available from the Office of the Vice President for Administration and Finance, West Virginia University, Morgantown, West Virginia 26506.

January 1984

I. Introduction

The purpose of this report is to analyze the patterns of budgeting and resource allocation by the State of West Virginia to West Virginia University. Two basic approaches are used: (1) funding for WVU by budget category is compared with a set of 18 peer institutions across the country; (2) WVU's allocations are analyzed to determine how budget formulas used in many states (and most Southern Regional Education Board [SREB] states) would affect the University's funding. The study also included interviews with appropriate officials at West Virginia University, the Board of Regents, and the State Department of Finance during the summer of 1983.

Regarding the set of peer institutions, a list of comparable universities was formed in three phases: first, a list of all public, land-grant universities with medical centers was developed; then, additional universities were added to this list which were the flagship universities in their states and had some health science activities, although not necessarily a medical school; finally, three large, comprehensive, nearby universities with which WVU is often compared — Pennsylvania State University, University of Pittsburgh, and Virginia Polytechnic Institute — were added to this list. Basic characteristics of these institutions were examined to confirm their comparability for the purposes of this study. The final list of 18 peer universities is shown in Table 1.

Expenditure data for all 18 institutions and WVU for 1980-81, the most recent year available, was collected as part of the annual Higher Education General Information Survey (HEGIS) conducted by the National Center for Education Statistics (NCES), a unit of the U.S. Department of Education, and made available with the assistance of the National Center for Higher Education Management Systems, Boulder, Colorado. A special note of caution must be added here: given the fiscal and budgetary developments at West Virginia University during the three years following 1980-81, it is most likely that WVU's comparative position has worsened considerably. (Data released by the National Association of State Universities and Land-Grant Colleges indicate that West Virginia ranks 47th among the 50 states in its percent increase in appropriations to higher education from 1981-82 to 1983-84.)

Regarding state formulas for the funding of higher education, four states were selected. Each is in close physical proximity to West Virginia, has approximately the same tax capacity, and uses a relatively sophisticated resource allocation formula. These states are Kentucky, Tennessee, Virginia and Maryland. All four as well as West Virginia have a tax capacity below the 50-state average.

In addition to the formulas in these four states, data from actual allocations or expenditures were used when possible. In these four states, special attention was paid to their university-level institutions, particularly the University of Kentucky at Lexington, University of Tennessee at Knoxville, Virginia Polytechnic Institute, and the University of Maryland at College Park. Furthermore,

formulas in use in selected other states were reviewed and are occasionally referred to in this report, particularly when a formula is not used for a particular budget category in these four states but is used in another state.

TABLE 1

18 Peer Institutions of West Virginia University

University of Arizona
University of California — Davis
University of Florida
University of Georgia
University of Hawaii — Manoa
University of Kentucky
Louisiana State University and A & M College
Michigan State University
University of Minnesota — Minneapolis/St. Paul
University of Missouri — Columbia
University of Nevada — Reno
Ohio State University — Main Campus
Pennsylvania State University — Main Campus
University of Pittsburgh — Main Campus
Texas A & M University — Main Campus
University of Vermont and State Agricultural College
Virginia Polytechnic Institute and State University
University of Wisconsin — Madison

When possible, the budget formulas were applied to WVU data and comparisons made within each budget category. This should help the reader to decide whether a particular category is funded appropriately.

As might be expected, there are technical problems in comparing budget formulas, budgets, and institutional data from one state to another. For example: accounting systems are not perfectly standardized among the states; enrollments may be counted some-

what differently; fringe benefits are counted in some cases and not in others; faculty may be counted somewhat differently; health science complexes may be budgeted in ways that overlap the main university budget.

As a result, the data found in this report cannot be precise to the nearest dollar. The data will, however, be sufficiently valid to give an accurate picture of general patterns and major differences. This is particularly true because two different methodological approaches—analysis of 18 peer institutions as well as four formula-budget states—are used in combination.

II. State Budget Formulas for Higher Education

A. **Purposes**

A budget formula is, simply, a mathematical approach to allocating resources designed to reflect relationships between programs and costs. Formulas have been used in higher education budgeting since the 1930s and are now in use in some form in more than half the states. A 1973 Tennessee study indicated that West Virginia and North Carolina were the *only two* SREB states *not* utilizing budget formulas for state-supported colleges and universities.

Formulas are intended primarily to provide equity in the allocation of funds among institutions. They also are designed to insure adequate support for all institutions. As by-products, formulas may reduce political uncertainties concerning state financial support, and provide a basis for institutional accountability in the use of public funds. When formulas work well, all interested parties agree to the legitimacy of the budget's framework and the scope of the budget debate is narrowed; as a result, conflict is reduced.

Equitable distribution of resources does *not* mean that all institutions receive the same funding. Quite to the contrary, formulas allocate funds based on varying institutional programs, levels of instruction and other needs.

B. **General Descriptions**

Formulas come in many shapes and sizes. Formulas may be highly detailed or very simple. They may use: staffing patterns; ratios of staff to some measure of workload; dollar costs ("rates") per unit of workload; or, simple percentages of some base budget. Fixed

and variable costs may be considered directly or indirectly in formulas; for example, one approach gives all institutions the same base dollar amount for some purpose and increments for larger enrollments but at decreasing (or "marginal") costs per student.

College and university budgets usually are divided into certain budget categories, following standards published by the National Association of College and University Business Officers (NACUBO) and adopted by the federal government in its reporting requirements:

1. Instruction and Departmental Research
2. Organized Research
3. Public Service
4. Academic Support
5. Student Services
6. Institutional Support
7. Maintenance and Operation of Physical Plant
8. Scholarships and Fellowships.

The eight together make up the "Educational and General" costs of the institution, or the current funds expenses. State budget formulas normally address only these categories, and not such other expenses as those for auxiliary enterprises (dormitories, food service, etc.), loan funds, endowments, etc. All formulas develop budgets for Instruction and Departmental Research, the only category treated in depth in this Extended Summary of this analysis.

C. Common Formula Elements

There is no standard approach to formula development, but a common approach is summarized below.

1. **Instruction.** Funds are provided based on student credit hours (or hours converted to full-time equivalent students) by level of student or course (lower vs. upper division, masters, first professional, doctoral) and by type of academic program. Actual costs are found for each of the resulting units or cells and then applied to the projected enrollments. For example, for every lower division credit hour in Business, a college would get $21.42, while a Ph.D.-level credit hour in Engineering might be worth $482.59. The resulting budget covers such direct instructional support costs as instructional supplies, departmental secretaries, etc.

2. **Library.** A formula would provide a dollar amount per credit hour by level of student, sometimes with a program component. States have begun to introduce nationally-accepted formulas for determining total library holdings and annual acquisition levels.

3. **Student Services.** Usually the formula provides a dollar amount per headcount or FTE student, sometimes with a fixed base amount.

4. **Physical Maintenance.** Funding is usually related to the amount of gross square feet of plant to be maintained. Often formulas separate custodial costs from general maintenance and grounds costs, with utilities costs treated outside the formula.

Almost no generalization can be made about formulas for the other categories. Formulas may be based on percentages of the Instructional budget or the Education and General budget, may be related to FTE students or even staff, or simply dealt with on an *ad hoc* basis.

Formulas tend to be tailored for each individual state, reflecting that state's institutions, historical development, priorities and needs. Definitions and ways of counting vary widely among the states. Also, formulas may or may not actually be funded, and may be funded with many levels of institutional contributions. As a result, it is technically difficult to apply the formulas from one state to another, and the results of any such applications need to be reviewed carefully.

III. Comparative Budget Analysis

A. Instruction and Departmental Research (I & DR)

Definition. This category includes expenditures for all instructional units and for departmental research and public service not separately budgeted. It includes remedial and tutorial instruction. Deans and high level academic administrators are excluded but department chairpersons are included. Both faculty and support staff are included.

1. General Budgetary Approaches

This category is the most important in a university budget, both because of its programmatic importance and the size of the funds required. In formula budget states, instructional budgets are always

formula-driven, and almost always these formulas are based on full-time equivalent students (FTE's) or student credit hours (sch's).

A typical formula will break down the sch's by course level: lower division, upper division, masters, Ph.D., law, for example, or with the undergraduate combined. The funding per sch improves at the higher levels as class size drops, more senior professors teach the courses, or more support staff are needed.

The formulas also usually reflect varying programmatic needs, with anywhere from four to thirty programs funded at differential rates. Thus, engineering programs receive more funds than do liberal arts programs.

In many states, the formula is based on actual costs for Instruction from a prior period, perhaps increased for inflation.

The resulting formula then becomes a matrix of many cells of unit cost data—e.g., $11.26 for each lower division Social Science sch—and past actual or future projected enrollments are multiplied by the rates to generate the model budget.

The instructional budget often becomes the basis for other formula calculations. Academic Support, Organized Research, or other categories often are calculated as a percentage of the funds provided by the Instructional model. To complicate matters, some states include costs for other categories (Academic Support and/or Organized Research) within the Instructional model, and the resulting unit costs and budgets for I & DR could be much higher per sch than in states which separately model the other categories.

A few states use other approaches. One traditional approach found often in non-formula states as well as in a few formula states is to apply student-faculty ratios to FTE's by course level and program—e.g., 1 faculty to 14 FTE students in upper division Social Science. Staffing ratios also are applied for support staff—e.g., 1 support position for every 4 faculty.

A problem with this formula approach that has generated extensive discussion in recent years is that when enrollments decline, the formulas make a full-cost reduction for each decline in students rather than reflecting only the marginal cost reductions that actually occur. The formulas worked well for the colleges when enrollments were rising, actually providing funding beyond the marginal cost needs, but they cut too quickly or too severely when enrollments drop.

There may be differences among the states and institutions in counting the various components of the Instructional budget. FTE students, particularly at the advanced graduate levels, can be counted in many different ways, and some states use 32 sch's rather than the standard 30 to determine undergraduate FTE's. There are also many ways to count department chairpersons (what percentage as instructors?), teaching assistants, and adjunct faculty. Summer session faculty and students may not be counted.

The unit costs used in many states' models necessarily reflect estimates of time by faculty and support staff and of the use of instructional supplies and equipment. The unit costs also reflect particular histories. A sharp drop in Education enrollments may lead to extraordinarily high actual unit costs. Lower and upper division courses are not uniformly separated, and departments or courses may be placed in different budget programs or disciplines.

2. **West Virginia Data**

a. **WVU Data.** For 1981-82, $31.6 million was budgeted for Instruction, of which $1.2 million was federally funded.

There were 740 full-time faculty and 174 adjunct FTE faculty, a total of 914 regular session faculty. Approximately 53 faculty taught in the summer, for an annual total of 967.

There were 206 full-time Instructional support staff and, if one-half the funds for part-time staff is equated, roughly 32 FTE more, for a total of 238. The ratio of total support staff to total faculty would be 1:3.8. For full-time staff alone it is 1:3.6.

In 1981-82, WVU had 17,524 annual average FTE students, excluding the Health Sciences, and another 1,238 summer session FTEs, for a total of 18,762 FTE's.

The regular session student-faculty ratio, then, was 19.2:1; the summer session, 23.4:1, and the full-year ratio, 19.4:1.

Dividing the $31.6 million total budget by 18,762 FTEs yields $1,687 per FTE (the non-Federal portion would be $1,623).

b. **HEGIS Peer Data.** In 1980-81, the HEGIS data show WVU with $2,682 per FTE for Instruction, only 82% of the average university in the sample and the second poorest. Among nearby state universities, VPI had $2,885, University of Kentucky $3,449, Penn State $2,776, and Ohio State $3,169.

HEGIS reported WVU's student-faculty ratio at 17.8:1, slightly better than the average of 20.2:1, although WVU compares unfavorably to 14.8:1 at VPI and 16.1:1 at UK. HEGIS data are somewhat puzzling here, when compared with institutional data. The fact that WVU has a somewhat better student-faculty ratio but a lower cost per student than the other institutions might reflect a low salary structure, and may also reflect poorer support staffing.

The HEGIS data show WVU with $46.1 million for Instruction, while the University data for 1981-82 show only $27.5 million. Among possible explanations for the discrepancy, the most obvious is that Health Science Center costs are included in the HEGIS data, but there are probably other factors as well.

3. **Application of State Formulas**

a. **Kentucky.** Kentucky's formula for 1983-1984 has student-faculty ratios for 5 course levels (including Law) and 11 "Instructional Areas." Projected enrollments are divided by the 55 or so ratios and the result is multiplied by average faculty salaries and by a unit cost, "Departmental Operating Expense," to obtain a rate.

The funding includes the non-Library portion of the Academic Support category, so the unit costs are inflated. Undergraduate FTEs are counted at 32 sch's = 1 FTE.

This formula was applied to WVU's enrollments found in its 1981-82 data book. Since data were not reported separately for doctoral enrollments, it was assumed that 10 percent of graduate enrollment was at the advanced graduate level (based on the proportion of degrees granted). This is a relatively important assumption since the formulas tend to provide a high level of funding for doctoral work.

The results showed that WVU would receive much larger funding and staffing with the Kentucky formula than it had in 1981-82, with the Kentucky formula generating $48.0 million and 1,168 FTE faculty. Then the formula adds 28 percent of the Instruction figure for "Academic Support/Instructional Mission Scope." This generates another $13.4 million (a figure so large that it likely includes something like experimental farms, laboratory schools, etc.).

In any case, when the WVU data is updated to 1983-84 ($32.3 million) and the 32 sch's dropped to 30 to become comparable,

Kentucky's formula still generates many more dollars and staff than WVU actually has, possibly on the order of 200 more faculty, and at least $10 to $15 million more in funding.

b. **Tennessee.** The 1983-84 formula combines Instruction with Academic Support, excluding the Library. It is similar to the Kentucky formula with 4 course levels plus Law, and it has 29 academic programs (several not applicable to universities). No student-faculty ratios are shown; the formula has dollar rates per quarter hour. The rates are significantly lower than those in Kentucky.

To apply the formula, we combined some of the Tennessee program categories into a framework like Kentucky's, applied a fringe benefit rate of 22 percent to 85 percent of the results, and multiplied the result by 1.5 to convert quarter hours to semester hours. The result was $42.7 million. Some portion of this is for the non-Library Academic Support; also, the rates are for 1983-84 and, therefore, two years later than the WVU data used here, but still yield about $6.4 million more funding than WVU now has.

Tennessee's actual Instructional budget for 1983-84 has a student-faculty ratio of 18.9:1, slightly better than WVU's 1981-82 ratio. In 1981-82, Tennessee had $2,000 per FTE for Instruction, a figure that rose to $2,283 in 1982-83. Both would be higher than WVU by a significant factor, again suggesting that WVU's faculty salaries and, possibly, support staff are the major problem.

c. **Virginia.** Virginia's formula has 5 course levels and about 10 academic categories, with a basic one for the Liberal Arts. Student-faculty ratios are used in the formula, and the results are multiplied by each institution's salary schedule.

For support staff, a formula provides 1 administrator for every 20 faculty, and 1 non-teaching position for every 4 faculty. This results in a ratio of 1 support position per 3.3 faculty.

There are no guidelines for supplies and equipment.

The formula applied to WVU 1981-82 enrollments yielded 1,323 faculty, far more than the 967 faculty budgeted at WVU, and equivalent to a 14.2:1 student-faculty ratio.

The support staff ratio then would generate 397 positions, far more than WVU's 238.

The Virginia formula would provide WVU another $10 million in its Instructional budget for positions at WVU's current

salary levels. If those salaries were at the level of salaries in Virginia, even greater funding would have to be provided.

The actual formula may not work quite this well. Virginia Tech's budget request for 1984-85 has an overall student-faculty ratio of 16.4:1, and the support positions are budgeted at 4.3:1 rather than 3.3:1.

d. **Maryland.** Maryland's formula uses dollar rates per credit hour for 4 levels (lower and upper divisions, graduate and "graduate research"), and by three types of academic programs. The formula provides $183,000 as a base funding, plus the matrix, plus 37 percent of outside Research funding.

The formula matrix yields $45.7 million for 1981-82. Adding the $183,000 and 37 percent of WVU's outside research yields a total of $47.7 million.

The actual University of Maryland budget for 1981-82 had a student-faculty ratio of 16.2:1 and a cost per FTE of $2,219, both much better than WVU's. Maryland salaries are considerably better than WVU's

Even if the Research component is subtracted, the Maryland formula yields far more funding than WVU had, at least on the order of $10 million.

The application of each of the four states' formulas to West Virginia University's Instructional budget is included here in Appendix 4.

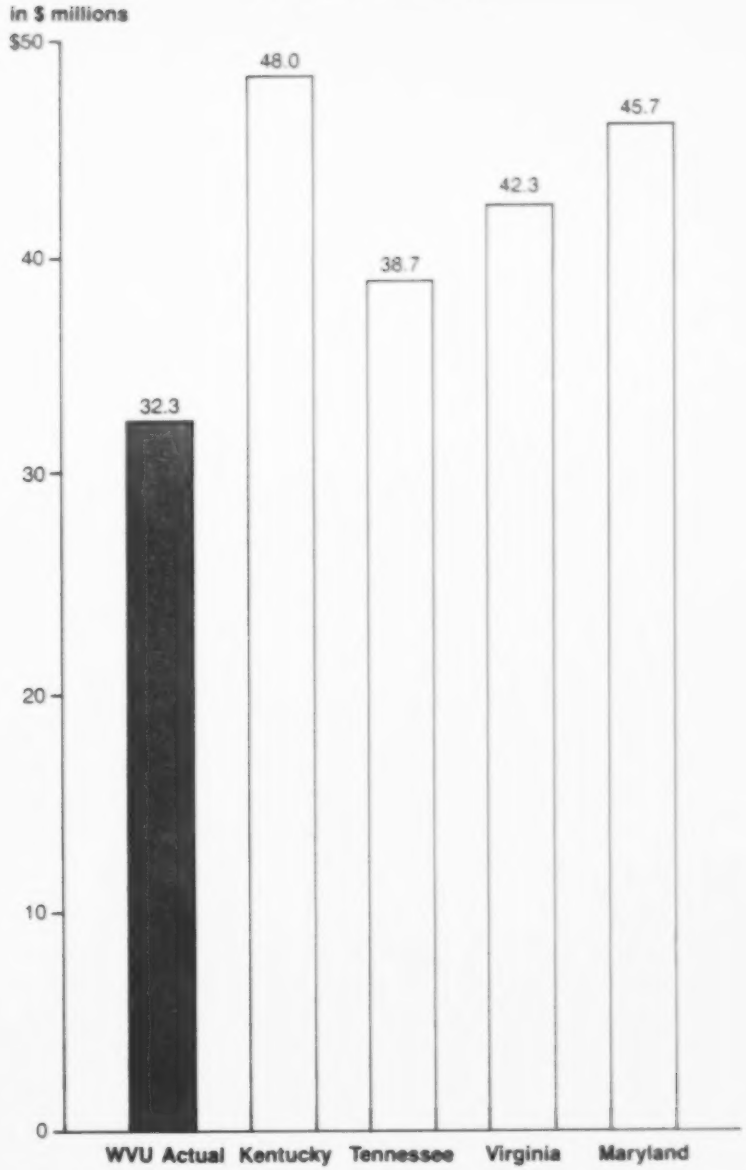
Figure 1 summarizes the gap between West Virginia's funding of the instruction portion of WVU's budget and what WVU would be allocated in four nearby states. Using this approach, WVU would gain between 6.4 and 15.7 million dollars in I & DR funding.

e. **West Virginia Regents Formula.** The Board of Regents have a student-faculty ratio model which provides:

LD and UD Engineering	14:1
LD All Other	23:1
UD All Other	20:1
Graduate (WVU Only)	10:1
Law	18:1

It also provides support staff at 1:6 undergraduate faculty and 1:3 graduate faculty.

Figure 1
WVU Actual Instructional Budget, 1983-84
Compared with State Formulas Applied to the
WVU Instructional Budget



This model would yield about 1,074 faculty, some 107 more than WVU actually had in 1981-82. This would generate about $2.6 million more for WVU. (The Regents own calculations show 1,064 for 1982-83, a shortage of 48 from the 1,016 budgeted.)

The support staff ratios for 1,074 faculty yield 238 positions. WVU actually had 206 fulltime positions plus some additional part-time positions.

There are a number of problems with the formula, the most important being that *it is not used.* Other concerns:

a) The 23:1 lower division ratio seems to be an inadequate level of support.

b) If the lower division ratio is 23:1, however, the upper division ratio should be much better than 20:1 based on ratios or dollar rates in other formulas.

c) The 10:1 graduate ratio may be acceptable, although doctoral ratios often are 4:1 or so.

d) The Regents count all graduate FTEs at 30 sch's. This is never done. It should be 24 sch's and a more refined approach for the advanced graduates.

e) The support ratios are too poor for a university, although about right for a 4-year college. Virginia's 1:3.3 is more appropriate.

4. **Comments**

a. Instruction clearly is an area in which WVU is seriously underfunded and understaffed compared to other universities. Even with its shortcomings, the West Virginia Regents formula also shows understaffing. The student-faculty ratio at WVU is too high, the salaries too low and, most likely, the support staff is too limited.

b. In one technical sense, faculty salaries are not a formula issue, but the low level at WVU is clearly a major budget and programmatic concern.

We have carefully analyzed and documented the salary problem, much of which is summarized in Table 2. In 1975-76, the average salary at WVU was 91.4% of the average salary at the 18 peer institutions. By 1982-83, this had fallen to 84.6%, more than 15% less than the average salary at the peer institutions. Table 2

also reflects data for public universities nationwide and for West Virginia's census region. The picture remains extremely poor.

Table 2 excludes the "rank" of Lecturer, which is used in different institutions in a wide range of ways. Table 3 summarizes developments at WVU and in the 18 peer institutions regarding Lecturers. The data for this rank further reduce WVU's salary position.

Where faculty salaries are extremely low, there sometimes is a tendency to inflate the rate of promotion to the upper faculty ranks, to partially offset the low salary schedule. Table 4 analyzes faculty distributions by rank for WVU, the 18-university peer group, national and regional groups of universities. In all cases, WVU actually has a *lower* percentage of full professors and a lower percentage in the two senior ranks.

B. **Other Budget Components.**

Readers interested in the analysis of other components of WVU's budget should request a copy of the full report.

IV. Conclusions and Recommendations

By far the largest single problem found in the analysis was that WVU's Instructional budget is significantly lower than in peer institutions across the country and in formula-funded universities in neighboring states. Application of the formulas in operation in other states would give WVU $10 million or more than they actually had in 1983-84. The largest increase, $15.7 million, would be in applying the formula from Kentucky, a state with a tax capacity significantly lower than West Virginia's. Although it is difficult to separate the various components, it seems clear that:

- WVU's salaries are far too low compared to peer institutions at all ranks, and WVU's relative position has declined in recent years.
- The WVU student-faculty ratios are inadequate, and as many as 100 additional faculty may be justifiable, even by a relatively conservative formula.
- Instructional support staffing also seems inadequate. A significant increase could be justified here.

Although the WVU Library budget seems more than adequate for a well-established library, the collection size is inadequate, and additional funds should be provided to permit the Library to gain appropriate size in volumes and to increase its periodical subscriptions.

Student Services staffing at WVU may be somewhat inadequate, and increases could be justified in relation to the formulas and actual experience in other states.

In other budget categories, there is insufficient evidence to come to any firm conclusions. The salary issue, of course, likely runs through all of the categories.

Some budget categories are difficult to specify in formula terms. This requires in-depth and joint analysis of the nature of WVU's mission and condition by state officials and the Regents as well as by University administrators.

The University needs to pursue supplemental federal and private funds with increased vigor.

Our most important conclusion and recommendation relates to the lack of logic, the almost irrational incremental way that state funds and positions have been allocated over the last seven years or more to public institutions of higher education in West Virginia. Formula-funded institutional allocations in West Virginia would greatly help to focus on the character and needs of its various colleges and universities. We cannot emphasize enough the importance of the Regents, state executive and legislative branch officials, and institutional representatives beginning to develop models for resource allocation appropriate and equitable to the various kinds of institutions in the state. WVU is the state's only comprehensive, research university and also its land-grant institution. The Regents student-faculty ratio model would be fairer in addressing WVU's instructional problems, and suggests that the Regents have the potential to respond appropriately to these issues. But, even this simple model is not currently used. It is a sad commentary that if West Virginia University were located in any of the four nearby formula-funded states analyzed in this study, its instructional budget would improve significantly. West Virginia needs to respond to these issues in its decision making for higher education.

Table 2.
Average Salaries for West Virginia University and Various Groups of Comparable Universities, by Rank, 1975–76 and 1982–83

Academic Rank[6]	*WVU*	*Peer Group*[1]	*All U.S. Public Univ.*[2]	*South Atlantic States*[3] *All*[5]	*South Atlantic States*[3] *Public*[4]
		1975–76			
Professor	$21,600	$24,250	$24,150	$24,030	$ n/a
Associate Prof.	16,930	18,140	18,010	17,650	n/a
Assistant Prof.	13,400	14,840	14,690	14,400	n/a
Instructor	11,210	11,870	11,510	11,400	n/a
All Combined	16,480	(19,050)	(18,580)	(17,920)	—
Overall[7]	16,420	18,020	17,860	17,620	—
		1982–83			
Professor	$31,730	$39,050	$38,180	$39,130	$38,740
Associate Prof.	25,670	29,270	28,310	28,580	28,400
Assistant Prof.	20,650	24,590	23,170	23,150	23,060
Instructor	16,570	18,080	17,550	18,160	17,890
All Combined	25,780	(31,670)	(30,590)	(30,320)	(29,960)
Overall[7]	25,780	30,630	29,580	30,020	29,790
WVU 1975-76 Average Salaries as Percentage of Those in Various Groups Above					
Professor		89.1	89.4	89.9	—
Associate Prof.		93.3	94.0	95.9	—
Assistant Prof.		90.3	91.2	93.1	—
Instructor		94.4	97.4	98.3	—
Overall		91.4	92.3	93.7	—
WVU 1982-83 Average Salaries as Percentage of Those in Various Groups Above					
Professor		81.3	83.1	81.1	81.9
Associate Prof.		87.7	90.7	89.8	90.4
Assistant Prof.		84.0	89.1	89.2	89.5
Instructor		91.6	94.4	91.2	92.6
Overall		84.6	87.9	86.8	87.4

[1]Includes University of Arizona, University of Kentucky, Michigan State, University of Missouri, University of Hawaii, University of Nevada, Ohio State, University of Florida, University of Wisconsin, University of Minnesota, Texas A & M, Cal/Davis, Penn State, University of Georgia, University of Pittsburgh, Louisiana State University, Virginia Polytechnic Institute, and University of Vermont. Data on standard academic year basis.

[2]Includes all public Category I universities in the nation (i.e., universities awarding at least 30 doctorates per year); N = 105

(Footnotes to Table 2 continued on next page).

[3]N = 24

[4]N = 15

[5]States include: Delaware, Maryland, District of Columbia, Virginia, North Carolina, South Carolina, Georgia and Florida (as well as West Virginia).

[6]The rank of Lecturer was excluded from this table; see Table 3.

[7]Because the percentage of faculty within ranks is somewhat different for WVU than for other groups, we used a Paasche index to compute the overall averages (i.e., the distribution of faculty members at WVU was used as the weight).

Source: Prepared by Maryse Eymonerie Associates, McLean, Va., at the authors' request; based on data obtained from the National Center for Education Statistics (NCES Form 2300-3), U.S. Department of Education.

Table 3:
Number of Lecturers and Average Salaries for that Rank*
WVU and Peer Group Universities

	Number of Faculty		*Average Salary*		*WVU Salary as*
Year	*WVU*	*Peer Group*	*WVU*	*Peer Group*	*% of Peer Group Salary*
1975-76	7	327	12,890	13,130	98.2%
1982-83	48	609	13,120	20,550	63.8%

*Because of the nature of this rank and the disparity in the number of individuals, the authors felt that the rank should not be included in computing the overall average salary for the institution or that of the various groups shown in Table 2.

Source: See Table 2.

Table 4:
Percentage Distribution Within Ranks for WVU and Various Groups of Comparable Universities, 1982-83

				South Atlantic States	
Academic Rank	*WVU*	*Peer Group*	*All U.S. Public Univ.*	*All*	*Public*
Professor	33.8	42.0	40.6	35.8	34.6
Associate Prof.	31.8	28.4	29.9	31.7	32.5
Assistant Prof.	29.1	24.6	25.0	27.2	27.6
Instructor	5.2	5.0	4.5	5.4	5.3
All	99.9*	100.0	100.0	100.0	100.0

Source: See Table 2.

*Does not add to 100 due to rounding.

APPENDIX B

Economic Factors in West Virginia

There are unusual economic factors in West Virginia which the University must react to and which affect the nature, scope and operation of the state's only comprehensive, land-grant institution of higher learning.

One such factor might be stated succinctly: in West Virginia, coal is king. Or, as coal goes, so goes West Virginia.

Some economic authorities believe that West Virginia's vast coal reserves are both a blessing and a curse.

Coal mining, underground and surface, ranks just below manufacturing, retail trade and services, in the number of persons employed. But it is highly cyclical as the demand varies from year to year. Moreover, the counties that produce most of West Virginia's coal have very little alternate employment possibilities.

Those who deplore West Virginia's heavy reliance on coal as an economic resource point to the state's historic role of exporting its natural resources as its chief means of livelihood. They cite reliance also on petroleum and natural gas. They point to the state's valuable timber and forest crops, where the hard and soft woods are cut and shipped out of the state green, thereby depriving the state of any value added factors. Soft woods are trucked out of state for the manufacture of paper and board products; hard wood to North Carolina and elsewhere for furniture manufacturing.

Coal mining is quite cyclical. Underground coal production ranged from 95,448,000 tons in 1973 to a low of 74,030,000 tons in 1977 to 104,217,000 tons in 1982.[1] Surface mine coal production, which accounts for about one-fourth of West Virginia's output, declined from 25,175,000 tons in 1980 to 24,561,000 in 1982.[1]

Crude petroleum production has continued on an even trend in the last ten years, producing about 2,700,000 barrels annually. Natural gas production, however, has taken a nose dive, from 214,851,000 cubic feet in 1973 to 150,850,000 in 1982.[1]

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[1]The 1983 *Statistical Handbook*, West Virginia Research League, Inc.

Some who question West Virginia's policy to ship out its material resources, liken it to a third world country. However, they readily admit that the United States itself follows a similar policy with respect to exporting much of its agricultural products.

The coal mining industry is beset with problems. Three now loom large: 1) increasing mechanization which will add to equipment cost and increase unemployment; 2) the high sulfur content of some West Virginia coal which will be affected by new Congressional legislation to curb acid rain, much of which is thought to be caused by the combustion of high sulfur coal; and 3) dependence on two major customers—the steel industry and public utilities.

On the positive side, the decision of several large public utilities to convert nearly completed nuclear plants to coal-burning facilities may help develop a larger market for low sulfur coal.

Like every other state (and nation) West Virginia must have an export base. West Virginia's principal exports are coal, representing 31.1 percent of the total state exports; chemicals, 16.3 percent; primary metals, 15.8 percent and electric energy, 5.6 percent.[2]

Coal is king, but the king's throne is not as stable as it once was, some authorities aver. Dr. William H. Miernyk, Benedum Professor of Economics at WVU, believes "There is evidence that we have reached diminishing returns in the production of fossil fuels, as well as in the exploration of many, if not most natural resources . . . It requires more energy, more labor, and more equipment, to produce the average ton of coal today than it did in the past."[3]

All of this has very important implications for West Virginia University.

In his State of the State message to the members of the 66th Legislature on January 11, 1984, Governor Jay Rockefeller listed steel, coal, chemicals and glass as the principal industries of the state. But he also pointed to the growth of travel and tourism. Travel and tourism contributed nearly $1.5 billion to the state's

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[2]Calculated from Anthony L. Louiscek, *et al.,The 1975 West Virginia Input-Output Study: Modeling A Regional Economy*, Morgantown, W.Va. WVU Press, 1979, p. 15.

[3]The West Virginia Economy: A Report Prepared for the West Virginia Tax Study Commission, December 1982.

economy in 1983 and is responsible directly and indirectly for employing some 47,000 West Virginians[4] out of a total work force of 758,700.[5]

An implication here is that increased employment in travel and tourism may help replace loss of employment in coal, chemicals, glass and steel. But a side effect for West Virginia University and its College of Agriculture and Forestry, for example, is what posture to take regarding the state's timber and forest products industry. The multiple use concept seems best:

- Much of West Virginia's claim to being "wild and wonderful" is due to its extensive woodlands.
- Over-cutting and exploitation of forests would destroy the state's attraction for travel and tourism, driving away potential vacationers, skiers, hunters and fishermen and destroying wildlife.

When WVU began as a land-grant college in 1867, agriculture accounted for about 62 percent of the state's work force. By 1980 agricultural employment had dropped to 3 percent.[6] Most of the tillable acreage in West Virginia is now worked by part-timers. Farm employment, according to WVU's College of Agriculture and Forestry is 95 percent part-time. Thus its part in total employment is fairly negligible as compared with mining, 9%; construction 7%; manufacturing 21%; transportation, 4%; utilities, 4%; wholesale trade, 3%; retail trade, 19%; services 28%; education, 9% and government 5%.

The foregoing is illustrative of some of the forces with which the University must contend as it carries on its mission of service to the state which now has one of the highest rates of unemployment in the nation (10.3 percent in 1982) and one of the lowest rates of personal income.

Accordingly one of the most important functions which WVU could perform would be to serve as the catalytic force with corporate management, organized labor and the state government to seek to increase and diversify economic and employment opportunities in the state.

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[4]State of State Messsage, Governor Jay Rockefeller, January 11, 1984.

[5]West Virginia Department of Employment Security, Employment and Economic Trends, Annual 1981.

[6]Bureau of Census, Bureau of Economic Analysis.

One effort in this direction is now being taken by the West Virginia University Economic Development Steering Committee. This Committee is proposing a four-pronged thrust for the state:

1. Work to strengthen ties with existing industries to keep them operating at least at present capacities in the state.
2. Develop the state's infrastructure so as to develop embryo businesses in the state.
3. Work on vertical integration — encouraging present industries to perform more functions in state so as to achieve value added advantages to West Virginia.
4. Actively seek new industry through incentives such as favorable tax arrangements, good transportation, a good labor supply, etc.

Findings

Throughout the nation, a number of comprehensive research universities similar to WVU have taken a leadership role in aiding their states in improving the economic and social conditions of the people by helping to attract and develop new industrial enterprises. West Virginia's economic base needs strengthening if there is to be an improvement in the present discouraging employment picture. WVU now is engaged in some important research activities and has the capacity and personnel to carry on additional investigative efforts which could aid in the industrial development process throughout the state. Such research efforts could lead to new product development and new production methods. Even modest amounts of additional support of WVU by the state would pay important dividends. Pending such additional aid, the administration of WVU is urged to vigorously pursue a course of uniting management, labor and government in a combined effort to nurture and hold existing industrial establishments and to establish a climate attractive to new business enterprises.